

# USER MANUAL

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## ATU-R210

*ADSL2+ Bridge/Router*

*With 4-ports switch HUB*



**CTC**  
*union* **CTC Union Technologies Co., Ltd.**

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# 1. Introduction

Congratulations on becoming the owner of the ATU-R210 ADSL Ethernet bridge/router. Your LAN (local area network) will now be able to access the Internet using your high-speed ADSL connection. This User Guide will show you how to install and set up your ATU-R210 ADSL Bridge/Router.

## Features

- Internal ADSL modem for high speed internet access
- 10/100Base-T Ethernet router to provide Internet connectivity to all computers on your LAN
- Network Address Translation (NAT) and IP filtering functions to provide firewall protection for your computers
- Network configuration through DHCP
- Configuration program you access via an HTML browser

## System Requirements

In order to use your ATU-R210 ADSL/Ethernet router, you must have the following:

- ADSL service up and running on your telephone line, with at least one public Internet address for your LAN
- One or more computers each containing an Ethernet 10Base-T/100Base-T network interface card (NIC)
- For system configuration using the supplied web-based program: a web browser such as Internet Explorer v5.0 or later, or Netscape v4.7 or later

## 2. Installation

In addition to this document, your ATU-R210 should arrive with the following:

- One standalone desktop ATU-R210 ADSL Ethernet Bridge/Router
- One power adapter
- One Ethernet cable
- One RJ-11 to RJ-11 telephone Cable
- One splitter

### Front Panel

The front panel contains lights called LEDs that indicate the status of the unit.

| Label                  | Color | Function                                                                                                                         |
|------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------|
| ALARM                  | Red   | Flashes on/off rapidly during the training mode.<br>Flashes on/off slowly: No ADSL link<br>Off: ADSL link established and active |
| ADSL LINK <sup>*</sup> | Green | On: ADSL link established and active<br>Off: No ADSL link                                                                        |
| ADSL ACT               | Green | Flashes on/off during ADSL data transfer.<br>On: No data transfer.                                                               |
| LAN1-4                 | Green | On: LAN link established and active<br>Off: No LAN link<br>Flashes during data transfer                                          |
| PWR                    | Green | On: Unit is powered on<br>Off: Unit is powered off                                                                               |

### Rear Panel

The rear panel contains the ports for the unit's data and power connections.

| Label  | Function                                                                                                                           |
|--------|------------------------------------------------------------------------------------------------------------------------------------|
| ADSL   | RJ-11 connector: Connects the device to a telephone jack using the supplied cable                                                  |
| On/Off | Switches the unit on and off                                                                                                       |
| PWR    | Connects to the supplied power converter cable                                                                                     |
| LAN1-4 | RJ-45 connector: Connects the device to your PC's Ethernet port, or to the uplink port on your LAN's hub, using the cable provided |

## Connecting the Hardware

You connect the device to the phone jack, the power outlet, and your computer or network.



**Before you begin, turn the power off for all devices.** These include your computer(s), your LAN hub/switch (if applicable), and the ATU-R210.

Figure 1 illustrates the hardware connections. The layout of the ports on your device may vary from the layout shown. Refer to the steps that follow for specific instructions.

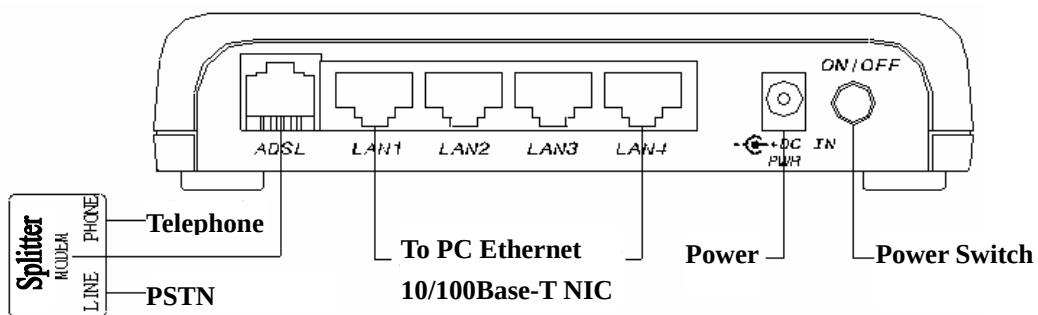


**Figure 1. Overview of Hardware Connections**

## Step 1. Connect the ADSL cable and optional telephone.

Connect one end of the provided phone cable to the port labeled ADSL on the rear panel of the device. Connect the other end to your wall phone jack.

You can attach a telephone line to the device. This is helpful when the ADSL line uses the only convenient wall phone jack. If desired, connect the telephone cable to the port labeled PHONE.



*Although you use the same type of cable, The ADSL and PHONE ports are **not** interchangeable. Do not route the ADSL connection through the PHONE port.*

**[CT1]:** This warning assumes that the board contains an internal filter on the POTS line. If an external filter is used instead, document that step here and remove this warning (with an external filter, the ADSL and PHONE ports are interchangeable).

## Step 2. Connect the Ethernet cable.

If you are connecting a LAN to the ATU-R210 ADSL/Ethernet router, attach one end of a provided Ethernet cable to a regular hub port and the other to the Ethernet port on the ATU-R210.

## Step 3. Attach the power connector.

Connect the AC power adapter to the PWR connector on the back of the device and plug in the adapter to a wall outlet or power strip.

## Step 4. Turn on the ATU-R210 and power up your systems.

Press the Power switch on the back panel of the device to the ON position.

Turn on and boot up your computer(s) and any LAN devices such as hubs or switches.

## Step 5. Configure the ATU-R210 through the WEB interface

The detail step3 would be described in Chapter3. It would help you configure the ATU-R210 to meet your need.

## Step 6. Save the configurations and Reboot.

To make the settings you made on ATU-R210 take effect.

## 3. Configuration

### 3.1 Setup

- Step 1: Connect the ATU-R and PC with a cross-over/straight Ethernet cable.
- Step 2: Power on the ATU-R.
- Step 3: The default IP of the ATU-R is 192.168.1.1.

### 3.2 Establish The Connection

- Enter the IP address (default is 192.168.1.1) of ATU-R from the Web Browser..
- A Dialogue Box will be popped up to request the user to login. (Figure 1)

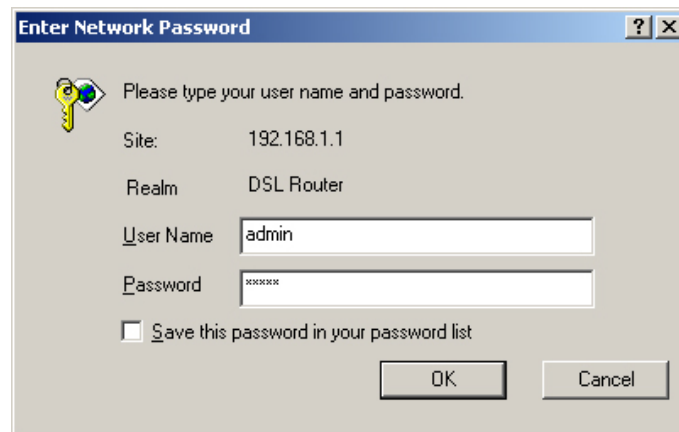


Figure 1. Authentication

- Please enter the management username/password into the fields then click on the OK button (default username/password is admin/admin).
- If the authentication passes, the home page “Device Info - Summary” will be displayed on the browser. (Figure 2)

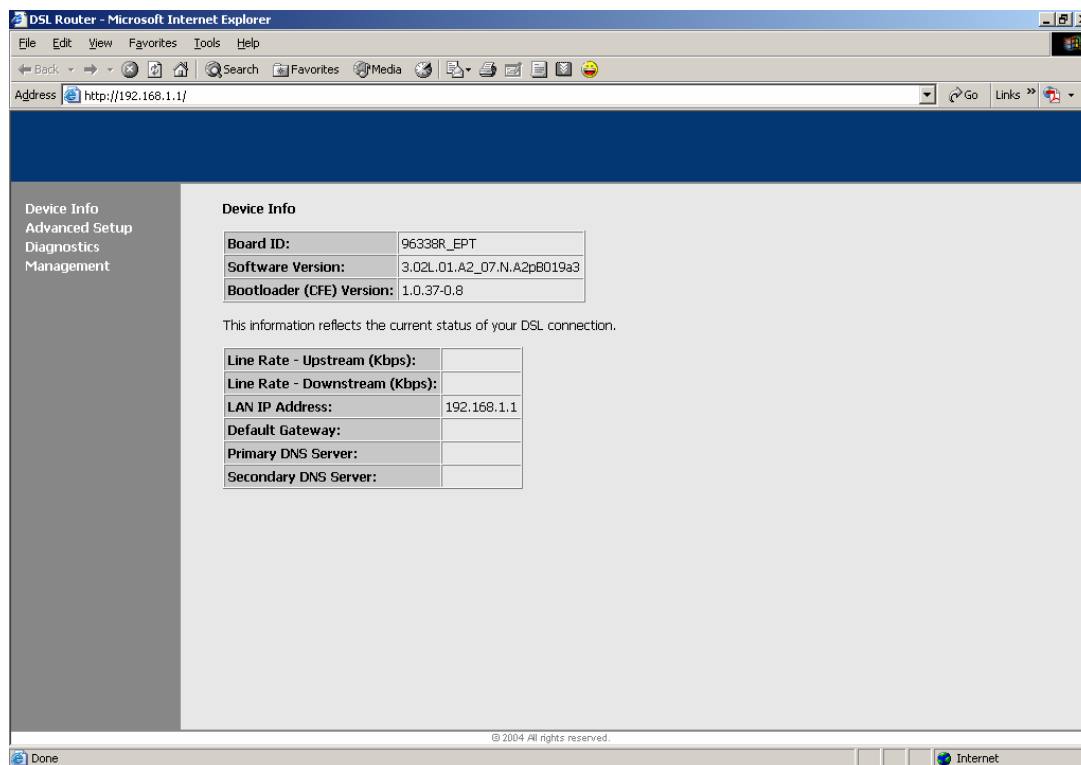


Figure 2. ATU-R Home Page

http://192.168.1.1/statsadsl.html - Microsoft Internet Explorer

### Statistics -- ADSL

|                                            |            |          |
|--------------------------------------------|------------|----------|
| Mode:                                      | G.DMT      |          |
| Type:                                      | Fast       |          |
| Line Coding:                               | Trellis On |          |
| Status:                                    | No Defect  |          |
| Link Power State:                          | LO         |          |
|                                            |            |          |
|                                            | Downstream | Upstream |
| SNR Margin (dB):                           | 15.1       | 11.0     |
| Attenuation (dB):                          | 0.0        | 1.0      |
| Output Power (dBm):                        | 7.8        | 12.5     |
| Attainable Rate (Kbps):                    | 10688      | 1056     |
| Rate (Kbps):                               | 7680       | 800      |
| K (number of bytes in DMT frame):          | 241        | 26       |
| R (number of check bytes in RS code word): | 14         | 2        |
| S (RS code word size in DMT frame):        | 1          | 1        |
| D (interleaver depth):                     | 1          | 1        |
|                                            |            |          |
| Super Frames:                              | 22054      | 22052    |
| Super Frame Errors:                        | 0          | 654      |
| RS Words:                                  | 1499692    | 1499536  |
| RS Correctable Errors:                     | 1          | 634      |
| RS Uncorrectable Errors:                   | 0          | N/A      |
|                                            |            |          |
| HEC Errors:                                | 0          | 238      |
| OCD Errors:                                | 0          | 0        |
| LCD Errors:                                | 0          | 0        |
| Total Cells:                               | 6794346    | 0        |
| Data Cells:                                | 13         | 0        |
| Bit Errors:                                | 0          | 0        |
|                                            |            |          |
| Total ES:                                  | 0          | 0        |
| Total SES:                                 | 0          | 0        |
| Total UAS:                                 | 424        | 0        |

ADSL BER Test   Reset   Close

Link State – Statistics – ADSL

### 3.3 Quick Setup

The system administrator can configure the ATU-R remotely or locally via a Web Browser. Network configuration need to be planned and decided before starting the configuration procedure.

Quick Setup allows system administrator to select the appropriate operation mode and configure the corresponding settings step by step to create a connection. The following five operation modes are supported :

- PPP over Ethernet (PPPoE)
- IP over ATM (IPoA)
- Bridging
- MAC Encapsulation Routing (MER)
- PPP over ATM (PPPoA)

### 3.3.1 PPPover Ethernet (PPPoE) Configuration

Click on “Quick Setup” in the left frame, and follow the steps below to create a PPP over Ethernet (PPPoE) connection.

#### 3.3.1.1 ATM PVC Configuration

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer" with the address bar showing "http://192.168.1.1/". The left sidebar contains a menu with "Device Info", "Quick Setup", "Advanced Setup", "Diagnostics", and "Management". The main content area is titled "Quick Setup" and contains the following text:

**Quick Setup**  
This Quick Setup will guide you through the steps necessary to configure your DSL Router.

**ATM PVC Configuration**  
Select the check box below to enable DSL Auto-connect process.

☐ DSL Auto-connect

The Virtual Path Identifier (VPI) and Virtual Channel Identifier (VCI) are needed for setting up the ATM PVC. Do not change VPI and VCI numbers unless your ISP instructs you otherwise.

VPI: [0-255]

VCI: [32-65535]

At the bottom of the main content area is a "Next" button. The status bar at the bottom of the browser window shows "Done" and "Internet".

Figure 3. Quick Setup – ATM PVC Configuration

Give the VPI/VCI values. Please contact you ISP for the information.

Click on “Next” to go to next step.

## 3.3.1.2

## Connection Type and Encapsulation Mode

DSL Router - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print View Source

Address http://192.168.1.1/ Go Links

Device Info  
Advanced Setup  
WAN  
LAN  
Routing  
DSL  
Port Mapping  
Diagnostics  
Management

**Connection Type**

Select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use. Note that 802.1q VLAN tagging is only available for PPPoE, MER and Bridging.

☐ PPP over ATM (PPPoA)

☒ PPP over Ethernet (PPPoE)

☐ MAC Encapsulation Routing (MER)

☐ IP over ATM (IPoA)

☐ Bridging

**Encapsulation Mode**

LLC/SNAP-BRIDGING

Enable 802.1q ☐

Back Next

© 2004 All rights reserved.

Done Internet

Figure 4. Quick Setup – Connection Type and Encapsulation Mode

Select “PPP over Ethernet (PPPoE)”, and the “Encapsulation Mode”. Please contact you ISP for the information.

Click on “Next” to go to next step.

## 3.3.1.3

## PPP Username and Password

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer" with the address bar showing "http://192.168.1.1/". The left sidebar contains a menu with the following items: Device Info, Advanced Setup, WAN, LAN, Routing, DSL, Port Mapping, Diagnostics, and Management. The main content area is titled "PPP Username and Password" and contains the following text: "PPP usually requires that you have a user name and password to establish your connection. In the boxes below, enter the user name and password that your ISP has provided to you." Below this text are four input fields: "PPP Username:" with the value "user", "PPP Password:" with the value "\*\*\*\*\*", "PPPoE Service Name:" which is empty, and "Authentication Method:" with a dropdown menu showing "AUTO". There are three checkboxes: "Dial on demand (with idle timeout timer)" which is unchecked, "PPP IP extension" which is unchecked, and "Use Static IP Address" which is unchecked. At the bottom of the form are two buttons: "Back" and "Next". The footer of the page shows "© 2004 All rights reserved." and a status bar with "Done" and "Internet" icons.

Figure 5. Quick Setup – PPP Username and Password

Give “PPP Username”, “PPP Password”, “PPPoE Service Name”, and select “Authentication Method” (AUTO/PAP/CHAP/MSCHAP). Please contact your ISP for the information.

The “Dial on demand (with idle timeout timer)” function, if checked, a new setup parameter “Inactivity Timeout (minutes) [1-4320]” will appear for ATU-R210 to tear down the PPP link automatically if there is no outgoing packet for the programmed period of time. ATU-R210 set up PPPoE connection automatically when there does not exist the PPPoE connection in it and user wants to send traffic to ISP

The users is able to assign some specific ATM PVC(s) to run PPPoE, when ATU-R210 is with multiple ATM PVC connection

Click on “Next” to go to next step.

## 3.3.1.4

## Enable IGMP Multicast, and WAN service

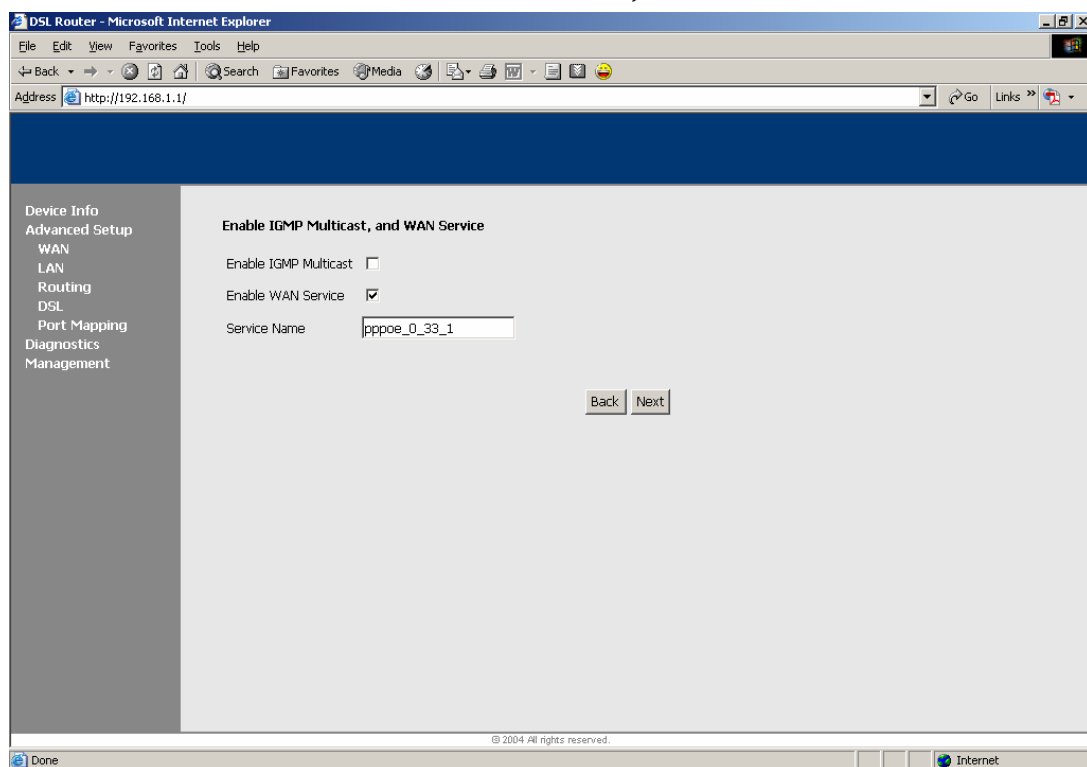


Figure 6. Quick Setup – IGMP Multicast, WAN service

Check to Enable/Disable IGMP Multicast and WAN Service.

Click on “Next” to go to next step.

## 3.3.1.5

## Device Setup (LAN Setup)

Figure 7. Quick Setup – Device Setup

Give IP (LAN IP, default 192.168.1.1) and Subnet Mask (default 255.255.255.0) to the device.

Select to Disable/Enable DHCP Server, use DHCP Server Relay, and configure related settings for that mode.

Note that Network Address Translation function (NAT) is default enabled and is not showing on the page to prevent it from being disabled.

Click on “Next” to go to next step.

## 3.3.1.6

## WAN Setup – Summary

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer" with the address bar displaying "http://192.168.1.1/". The left sidebar contains a navigation menu with the following items: Device Info, Advanced Setup, WAN, LAN, Routing, DSL, Port Mapping, Diagnostics, and Management. The main content area is titled "WAN Setup - Summary" and includes the instruction: "Make sure that the settings below match the settings provided by your ISP." Below this is a table of settings:

|                     |                        |
|---------------------|------------------------|
| VPI / VCI:          | 0 / 33                 |
| Connection Type:    | PPPoE                  |
| Service Name:       | br_d_33                |
| Service Category:   | UBR                    |
| IP Address:         | Automatically Assigned |
| Service State:      | Enabled                |
| NAT:                | Enabled                |
| Firewall:           | Enabled                |
| IGMP Multicast:     | Disabled               |
| Quality Of Service: | Disabled               |

Below the table, there is a note: "Click 'Save' to save these settings. Click 'Back' to make any modifications. NOTE: You need to reboot to activate this WAN interface and further configure services over this interface." At the bottom of the main content area are two buttons: "Back" and "Save". The status bar at the bottom of the browser window shows "Done" and "Internet".

Figure 8. Quick Setup – WAN Setup – Summary

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISP, and then click on “Save/Reboot” button to complete the configuration procedure.

### 3.3.2 IP over ATM (IPoA) Configuration

Click on “Quick Setup” in the left frame, and follow the steps below to create a IP over ATM (IPoA) connection.

#### 3.3.2.1 ATM PVC Configuration

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer" with the address bar displaying "http://192.168.1.1/". The left sidebar contains a navigation menu with the following items: Device Info, Advanced Setup, WAN, LAN, Routing, DSL, Port Mapping, Diagnostics, and Management. The main content area is titled "ATM PVC Configuration" and contains the following text: "This screen allows you to configure an ATM PVC identifier (VPI and VCI) and select a service category. Otherwise choose an existing interface by selecting the checkbox to enable it." Below this text are three input fields: "VPI: [0-255]" with the value "0", "VCI: [32-65535]" with the value "33", and "Service Category:" with a dropdown menu showing "UBR Without PCR". Below these fields is a section titled "Enable Quality Of Service" with the text: "Enabling packet level QoS for a PVC improves performance for selected classes of applications. QoS cannot be set for CBR and Realtime VBR. QoS consumes system resources; therefore the number of PVCs will be reduced. Use **Advanced Setup/Quality of Service** to assign priorities for the applications." At the bottom of this section is a checkbox labeled "Enable Quality Of Service" which is currently unchecked. At the bottom right of the main content area are two buttons: "Back" and "Next". The status bar at the bottom of the browser window shows "Done" and "Internet".

Figure 9. Quick Setup – ATM PVC Configuration

Give the VPI/VCI values. Please contact you ISP for the information.

Click on “Next” to go to next step.

## 3.3.2.2

## Connection Type

Figure 10. Quick Setup – Connection Type and Encapsulation Mode

Select “IP over ATM (IPoA)”, and the “Encapsulation Mode”. Please contact you ISP for the information.

Click on “Next” to go to next step.

## 3.3.2.3

## WAN IP Settings

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer" with the address bar displaying "http://192.168.1.1/". The left sidebar contains a navigation menu with the following items: Device Info, Advanced Setup, WAN, LAN, Routing, DSL, Port Mapping, Diagnostics, and Management. The main content area is titled "WAN IP Settings" and contains the following text and form fields:

Enter information provided to you by your ISP to configure the WAN IP settings.

Notice: DHCP is not supported in IPoA mode. Changing the default gateway or the DNS effects the whole system. Configuring them with static values will disable the automatic assignment from other WAN connection.

WAN IP Address:

WAN Subnet Mask:

☒ Use the following default gateway:

☒ Use IP Address:

☐ Use WAN Interface:

☐ Use the following DNS server addresses:

Primary DNS server:

Secondary DNS server:

At the bottom of the form are "Back" and "Next" buttons. The footer of the page displays "© 2004 All rights reserved." and a status bar at the bottom shows "Done" and "Internet".

Figure 11. Quick Setup– WAN IP Settings

WAN IP/Subnet Mask, default gateway, and DNS server settings. Please contact you ISP for the information.

Click on “Next” to go to next step.

## 3.3.2.4

## NAT, IGMP Multicast, and WAN service

DSL Router - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print View Source

Address http://192.168.1.1/ Go Links

Device Info  
Advanced Setup  
WAN  
LAN  
Routing  
DSL  
Port Mapping  
Diagnostics  
Management

**Network Address Translation Settings**

Network Address Translation (NAT) allows you to share one Wide Area Network (WAN) IP address for multiple computers on your Local Area Network (LAN).

Enable NAT ☐

Enable Firewall ☐

**Enable IGMP Multicast, and WAN Service**

Enable IGMP Multicast ☐

Enable WAN Service ☒

Service Name:

Back Next

© 2004 All rights reserved.

Done Internet

Figure 12. Quick Setup – IPoA – NAT, IGMP Multicast, WAN service

Check to Enable/Disable NAT and Firewall functions.

Use Advanced Setup/Firewall to assign filter rules. Check to Enable/Disable IGMP Multicast, and WAN Service.

Click on “Next” to go to next step.

## 3.3.2.5

## Device Setup (LAN Setup)

Figure 13. Quick Setup – Device Setup

Give IP (LAN IP, default 192.168.1.1) and Subnet Mask (default 255.255.255.0) to the device.

Select to Disable/Enable DHCP Server, use DHCP Server Relay, and configure related settings for that mode.

Click on “Next” to go to next step.

## 3.3.2.6

## WAN Setup – Summary

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer". The address bar displays "http://192.168.1.1". The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The toolbar contains icons for Back, Forward, Stop, Refresh, Home, Search, Favorites, Media, History, Mail, Print, Edit, Discuss, Messenger, and ICQ Pro. The main content area is titled "WAN Setup - Summary" and contains the following text:

Make sure that the settings below match the settings provided by your ISP.

|                     |                |
|---------------------|----------------|
| VPI / VCI:          | 0 / 33         |
| Connection Type:    | Bridge         |
| Service Name:       | br_0_33        |
| Service Category:   | UBR            |
| IP Address:         | Not Applicable |
| Service State:      | Enabled        |
| NAT:                | Enabled        |
| Firewall:           | Enabled        |
| IGMP Multicast:     | Not Applicable |
| Quality Of Service: | Disabled       |

Click "Save/Reboot" to save these settings and reboot router. Click "Back" to make any modifications.  
NOTE: The configuration process takes about 1 minute to complete and your DSL Router will reboot.

At the bottom of the form are two buttons: "Back" and "Save/Reboot".

The left sidebar of the web interface contains the following links: Device Info, Quick Setup, Advanced Setup, Diagnostics, and Management.

Figure 14 Quick Setup – WAN Setup – Summary

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISP, and then click on "Save/Reboot" button to complete the configuration procedure.

### 3.3.3 Bridge Configuration

Click on “Quick Setup” in the left frame, and follow the steps below to create a Bridging connection.

#### 3.3.3.1 ATM PVC Configuration

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer" with the address bar displaying "http://192.168.1.1/". The left sidebar contains a menu with "Device Info", "Quick Setup", "Advanced Setup", "Diagnostics", and "Management". The main content area is titled "Quick Setup" and includes the following text:

**Quick Setup**  
This Quick Setup will guide you through the steps necessary to configure your DSL Router.

**ATM PVC Configuration**  
Select the check box below to enable DSL Auto-connect process.

☐ DSL Auto-connect

The Virtual Path Identifier (VPI) and Virtual Channel Identifier (VCI) are needed for setting up the ATM PVC. Do not change VPI and VCI numbers unless your ISP instructs you otherwise.

VPI: [0-255]

VCI: [32-65535]

At the bottom center of the main content area is a "Next" button. The status bar at the bottom of the browser window shows "Done" and "Internet".

Figure 15. Quick Setup – ATM PVC Configuration

Give the VPI/VCI values. Please contact you ISP for the information.

Click on “Next” to go to next step.

## 3.3.3.2

## Connection Type

Figure 16. Quick Setup – Connection Type and Encapsulation Mode

Select “Bridging”, and the “Encapsulation Mode”. Please contact you ISP for the information.

Click on “Next” to go to next step.

## 3.3.3.3

## WAN Service

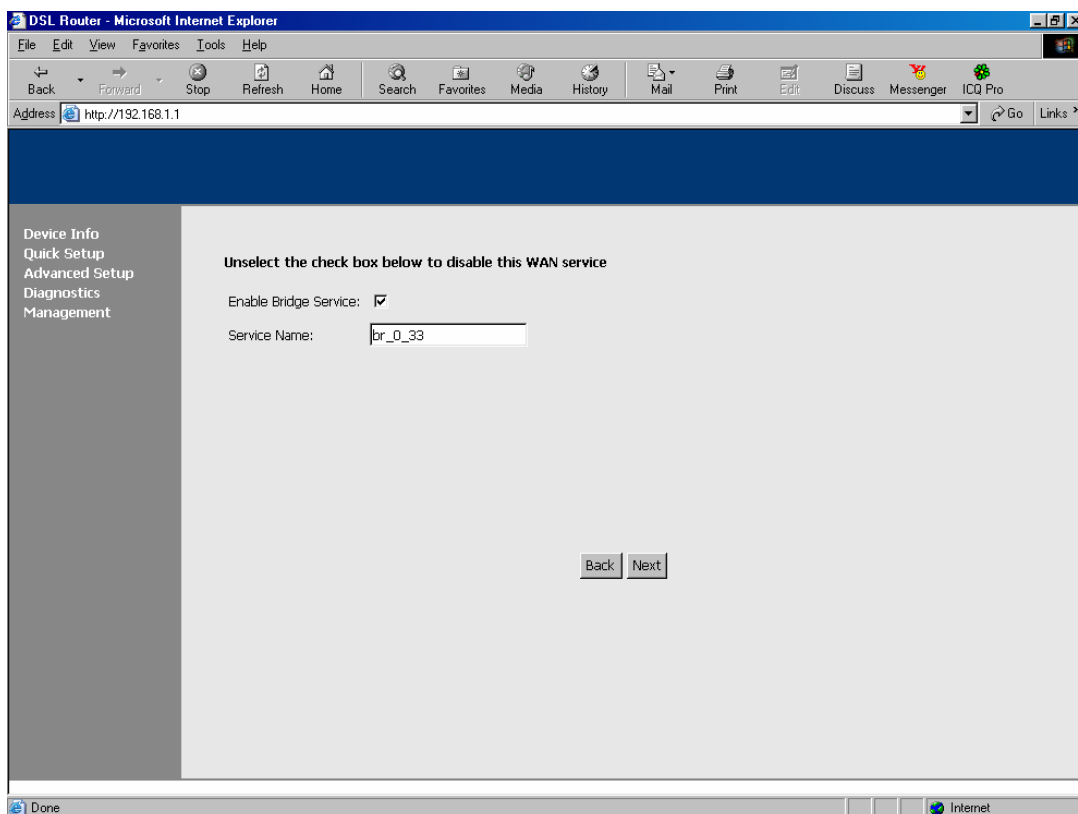


Figure 17. Quick Setup – WAN Service

Give a service name (default setting is br\_0\_33) and check the box to enable this wan service.

Click on “Next” to go to next step.

## 3.3.3.4

## Device Setup

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer" with the address bar displaying "http://192.168.1.1/". The left sidebar contains a menu with the following items: Device Info, Advanced Setup, WAN, LAN (highlighted), Routing, Default Gateway, Static Route, DSL, Port Mapping, Diagnostics, and Management. The main content area is titled "Local Area Network (LAN) Setup" and includes the following text: "Configure the DSL Router IP Address and Subnet Mask for LAN interface. Save button only saves the LAN configuration data. Save/Reboot button saves the LAN configuration data and reboots the router to make the new configuration effective." Below this text are four input fields: "IP Address:" with the value "192.168.1.1", "Subnet Mask:" with the value "255.255.255.0", "Ethernet Speed:" with a dropdown menu set to "auto", and "Ethernet Type:" with a dropdown menu set to "auto". Below these fields is a checkbox labeled "Enable IGMP Snooping" which is currently unchecked. At the bottom of the page, there is a copyright notice: "© 2004 All rights reserved." and a status bar showing "Internet".

Figure 18. Quick Setup – Device Setup

Give LAN IP (default 192.168.1.1) and Subnet Mask (default 255.255.255.0).

Click on “Next” to go to next step.

## 3.3.3.5

## WAN Setup – Summary

DSL Router - Microsoft Internet Explorer

Address <http://192.168.1.1/>

Device Info  
Advanced Setup  
WAN  
LAN  
Routing  
DSL  
Port Mapping  
Diagnostics  
Management

**WAN Setup - Summary**

Make sure that the settings below match the settings provided by your ISP.

|                     |                |
|---------------------|----------------|
| VPI / VCI:          | 0 / 33         |
| Connection Type:    | Bridge         |
| Service Name:       | br_0_33        |
| Service Category:   | UBR            |
| IP Address:         | Not Applicable |
| Service State:      | Enabled        |
| NAT:                | Disabled       |
| Firewall:           | Disabled       |
| IGMP Multicast:     | Not Applicable |
| Quality Of Service: | Disabled       |

Click "Save" to save these settings. Click "Back" to make any modifications.  
NOTE: You need to reboot to activate this WAN interface and further configure services over this interface.

[Back](#) [Save](#)

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Opening page <http://192.168.1.1/wancfg.cmd?action=add...>

Figure 19 Quick Setup – WAN Setup – Summary

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISP, and then click on “Save/Reboot” button to complete the configuration procedure.

### 3.3.4 MAC Encapsulation Routing (MER) Configuration

Click on “Quick Setup” in the left frame, and follow the steps below to create a MAC Encapsulation Routing (MER) connection.

#### 3.3.4.1 ATM PVC Configuration

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer". The address bar shows "http://192.168.1.1/". The left sidebar contains a menu with "Device Info", "Quick Setup", "Advanced Setup", "Diagnostics", and "Management". The main content area is titled "Quick Setup" and contains the following text:

**Quick Setup**  
This Quick Setup will guide you through the steps necessary to configure your DSL Router.

**ATM PVC Configuration**  
Select the check box below to enable DSL Auto-connect process.  
☐ DSL Auto-connect

The Virtual Path Identifier (VPI) and Virtual Channel Identifier (VCI) are needed for setting up the ATM PVC. Do not change VPI and VCI numbers unless your ISP instructs you otherwise.

VPI: [0-255]   
VCI: [32-65535]

At the bottom of the main content area is a "Next" button. The status bar at the bottom of the browser window shows "Done" and "Internet".

Figure 20. Quick Setup – ATM PVC Configuration

Give the VPI/VCI values. Please contact your ISP for the information.

Click on “Next” to go to next step.

## 3.3.4.2

## Connection Type

Figure 21. Quick Setup – Connection Type and Encapsulation Mode

Select “MAC Encapsulation Routing (MER)”, and the “Encapsulation Mode”.  
Please contact you ISP for the information.

Click on “Next” to go to next step.

## 3.3.4.3

## WAN IP Settings

DSL Router - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://192.168.1.1/

Device Info  
Advanced Setup  
WAN  
LAN  
Routing  
DSL  
Port Mapping  
Diagnostics  
Management

**WAN IP Settings**

Enter information provided to you by your ISP to configure the WAN IP settings.  
Notice: DHCP can be enabled for PVC in MER mode if "Obtain an IP address automatically" is chosen. Changing the default gateway or the DNS effects the whole system. Configuring them with static values will disable the automatic assignment from DHCP or other WAN connection.  
If you configure static default gateway over this PVC in MER mode, you must enter the IP address of the remote gateway in the "Use IP address". The "Use WAN interface" is optional.

☐ Obtain an IP address automatically  
☒ Use the following IP address:

WAN IP Address:   
WAN Subnet Mask:

☐ Obtain default gateway automatically  
☒ Use the following default gateway:

☒ Use IP Address:   
☐ Use WAN Interface:

☒ Obtain DNS server addresses automatically  
☐ Use the following DNS server addresses:

Primary DNS server:   
Secondary DNS server:

Back Next

© 2004 All rights reserved.

Done Internet

Figure 22. Quick Setup – WAN IP Settings

WAN IP/Subnet Mask, Default Gateway, and DNS Server can either be obtained automatically or set manually.

Click on "Next" to go to next step.

#### **3.3.4.4 NAT, IGMP Multicast, and WAN service**

Please refer to 3.3.2.4.

#### **3.3.4.5 Device Setup**

Set device IP(LAN IP) and Subnet Mask, and DHCP related items. Please refer to 3.3.1.5.

#### **3.3.4.6 WAN Setup – Summery**

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISP, and then click on “Save/Reboot” button to complete the configuration procedure. Please refer to 3.3.1.6.

### **3.3.5 PPP over ATM (PPPoA) Configuration**

Click on “Quick Setup” in the left frame, and follow the steps below to create a PPP over ATM (PPPoA) connection. The following setting steps are all the same as PPP over Ethernet (PPPoE) steps.

#### **3.3.5.1 ATM PVC Configuration**

Give the VPI/VCI values. Please refer to 3.3.1.1.

#### **3.3.5.2 Connection Type**

Select “PPP over ATM (PPPoA)”. Please refer to 3.3.1.2

#### **3.3.5.3 PPP Username and Password**

Give “PPP Username”, “PPP Password”, and select “Authentication Method” (AUTO/PAP/CHAP/MSCHAP). Please contact you ISP for the information. Please refer to 3.3.1.3.

#### **3.3.5.4 IGMP Multicast, and WAN service**

Please refer to 3.3.1.4

#### **3.3.5.5 Device Setup**

Set device IP (LAN IP) and Subnet Mask, and DHCP related items. Please refer to 3.3.1.5.

#### **3.3.5.6 WAN Setup – Summery**

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISP, and then click on “Save/Reboot” button to complete the configuration procedure. Please refer to 3.3.1.6.

### **3.4 Advanced Setup**

Advanced Setup allows system administrator to configure the following topics:

- WAN
- LAN
- NAT
- Security
- Routing
- DNS
- DSL

### 3.4.1 WAN

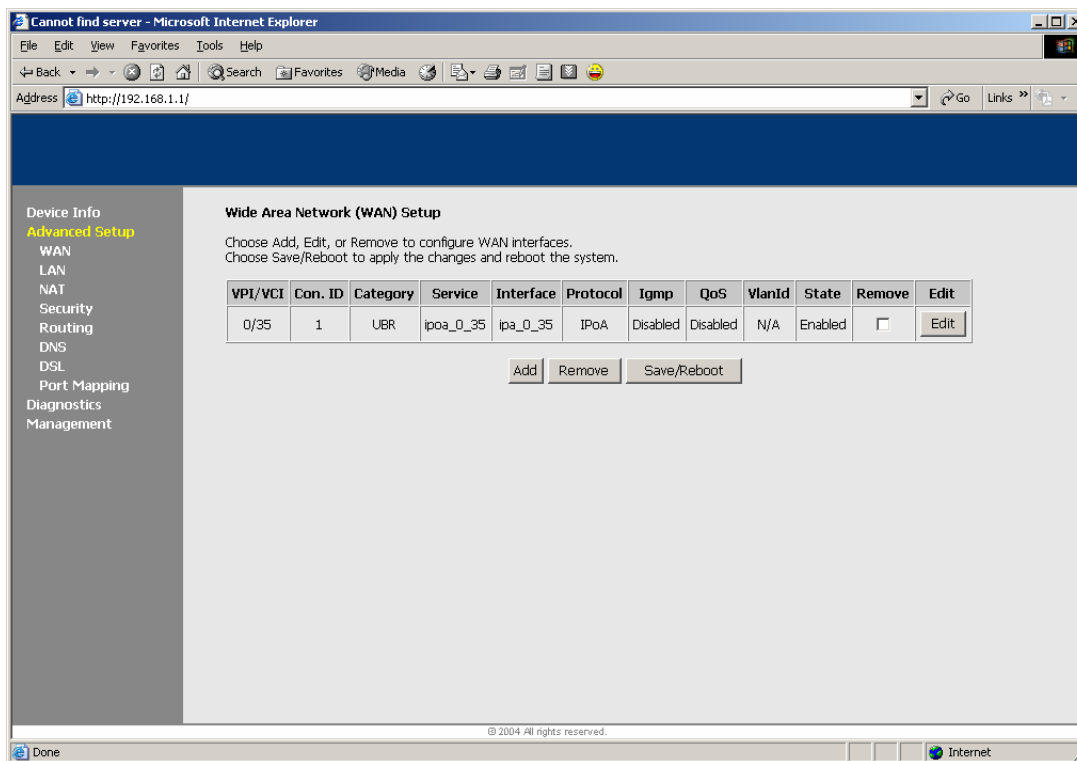


Figure 23. Advanced Setup – WAN

This page shows the current existing WAN interfaces in the system. User can choose Add, Edit, or Remove to configure WAN interfaces. For detail about Add and Edit procedure, please refer to 3.3 *Quick Setup*.

### 3.4.2 LAN

Please refer to 3.3.1.5.

### 3.4.3 NAT

Including Virtual Servers, Port Triggering, and DMZ Host function settings.

#### 3.4.3.1 Virtual Servers

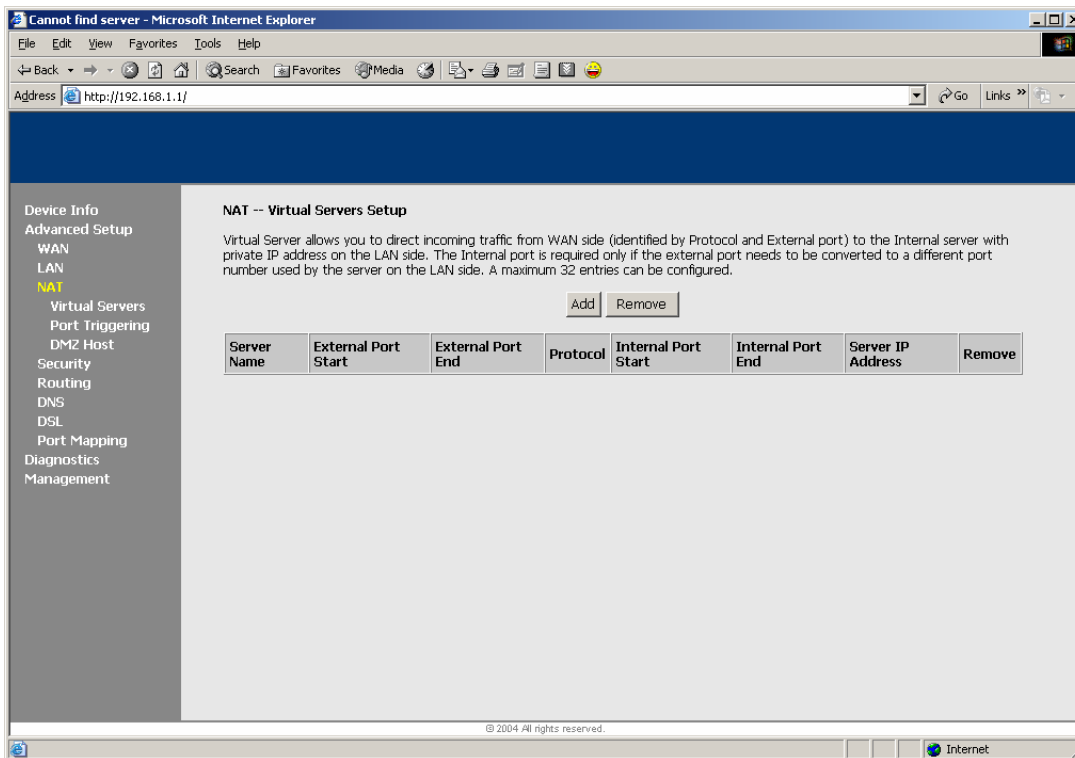


Figure 24. Advanced Setup – NAT – Virtual Servers

Virtual Server allows you to direct incoming traffic from WAN side (identified by Protocol and External port) to the Internal server with private IP address on the LAN side. The Internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum 32 entries can be configured.

Click on the Add button, select the service you need for this server, then give the external/internal port and protocol rules(system will show you default configuration for this service). Click on the Save/Apply button to finish and apply the new setting.

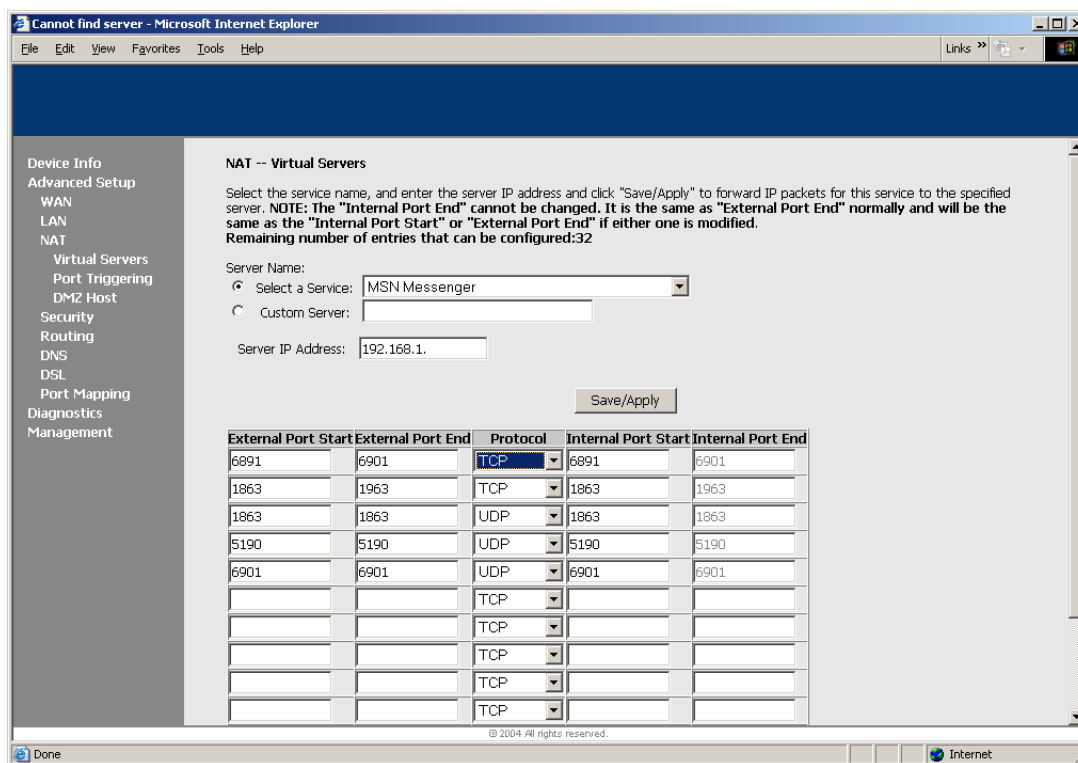


Figure 25. Advanced Setup – NAT – Add new Virtual Server

## 3.4.3.2

## Port Triggering

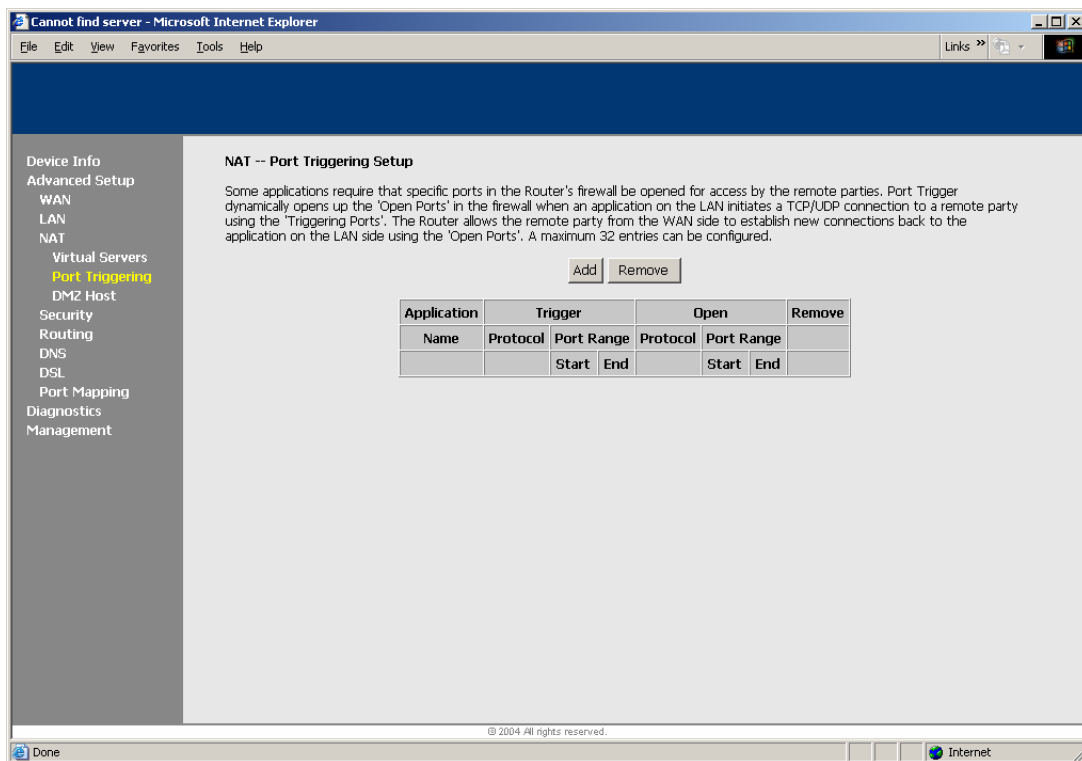


Figure 26. Advanced Setup – NAT – Port Triggering

Some applications require that specific ports in the Router's firewall be opened for access by the remote parties. Port Trigger dynamically opens up the 'Open Ports' in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using the 'Triggering Ports'. The Router allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the 'Open Ports'. A maximum 32 entries can be configured.

Click on the Add button, select the application you need, then give the trigger/open port and protocol rules(system will show you the default configuration for this application). Click on the Save/Apply button to finish and apply the new setting.

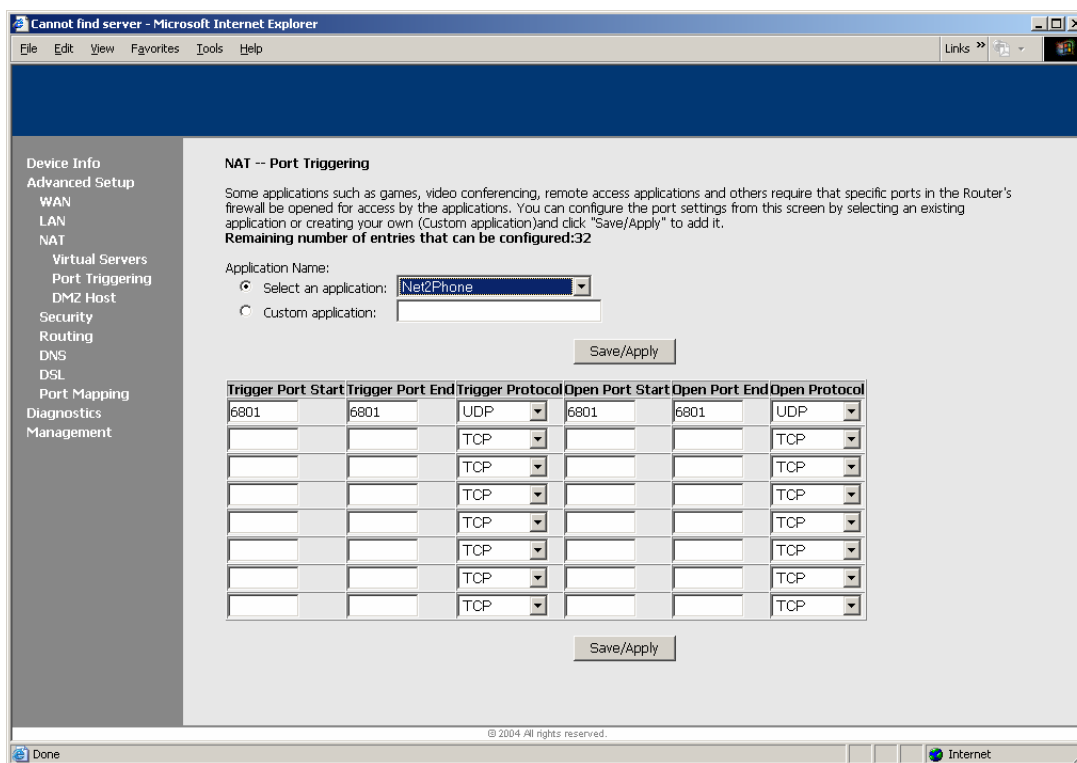


Figure 27. Advanced Setup – NAT – Add new Port Triggering

## 3.4.3.3

## DMZ Host

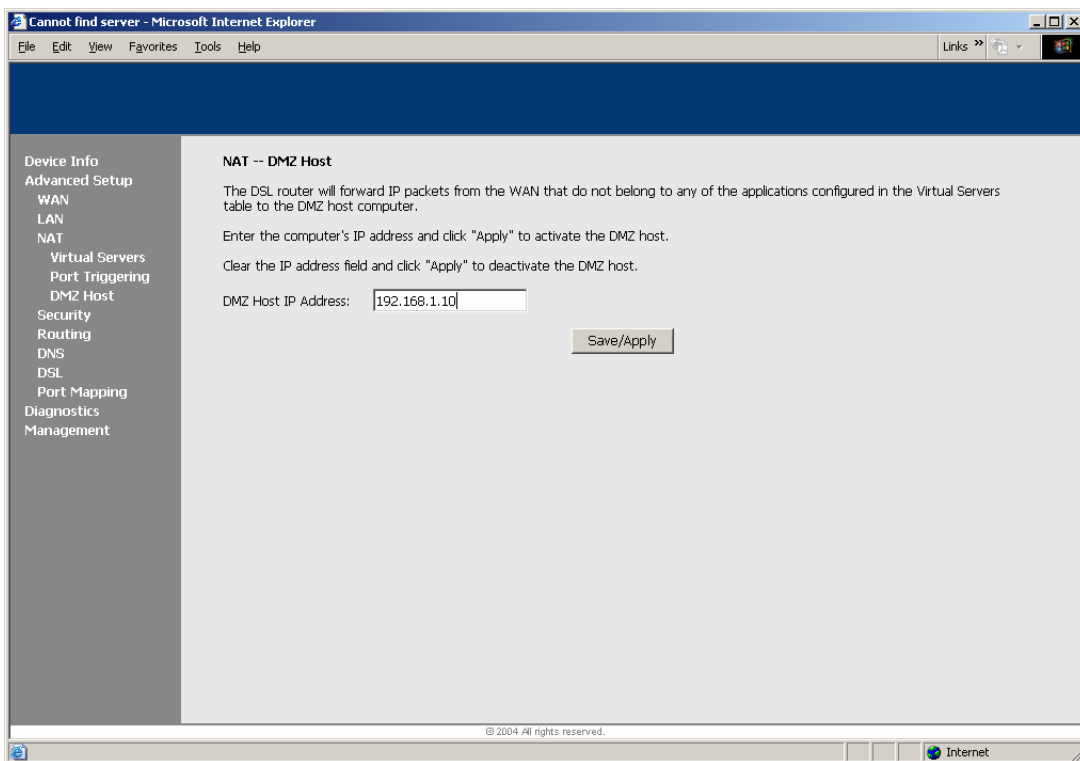


Figure 28. Advanced Setup – NAT – DMZ Host

The DSL router will forward IP packets from the WAN that do not belong to any of the applications configured in the Virtual Servers table to the DMZ host computer

Enter the computer's IP address and click "Save/Apply" to activate the DMZ host.

Clear the IP address field and click "Save/Apply" to deactivate the DMZ host.

### 3.4.4 Security

Two functions are supported in Security, Outgoing IP Filtering and Incoming IP Filtering.

#### 3.4.4.1 Outgoing IP Filtering

By default, all outgoing IP traffic from LAN is allowed, but some IP traffic can be blocked by setting up filters. Choose Add or Remove to configure outgoing IP filters.

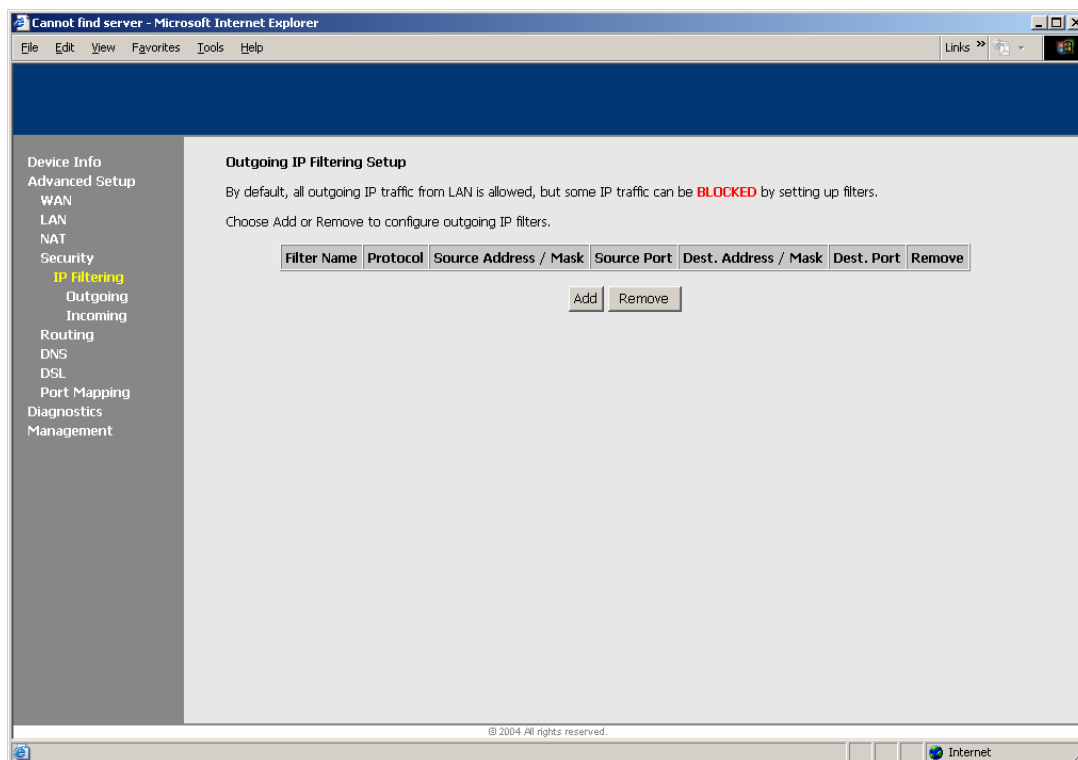


Figure 29. Advanced Setup – Firewall – Outgoing IP Filtering Setup

Click on Add to create a filter to identify the outgoing IP traffic by specifying at least one condition below. If multiple conditions are specified, all of them take effect

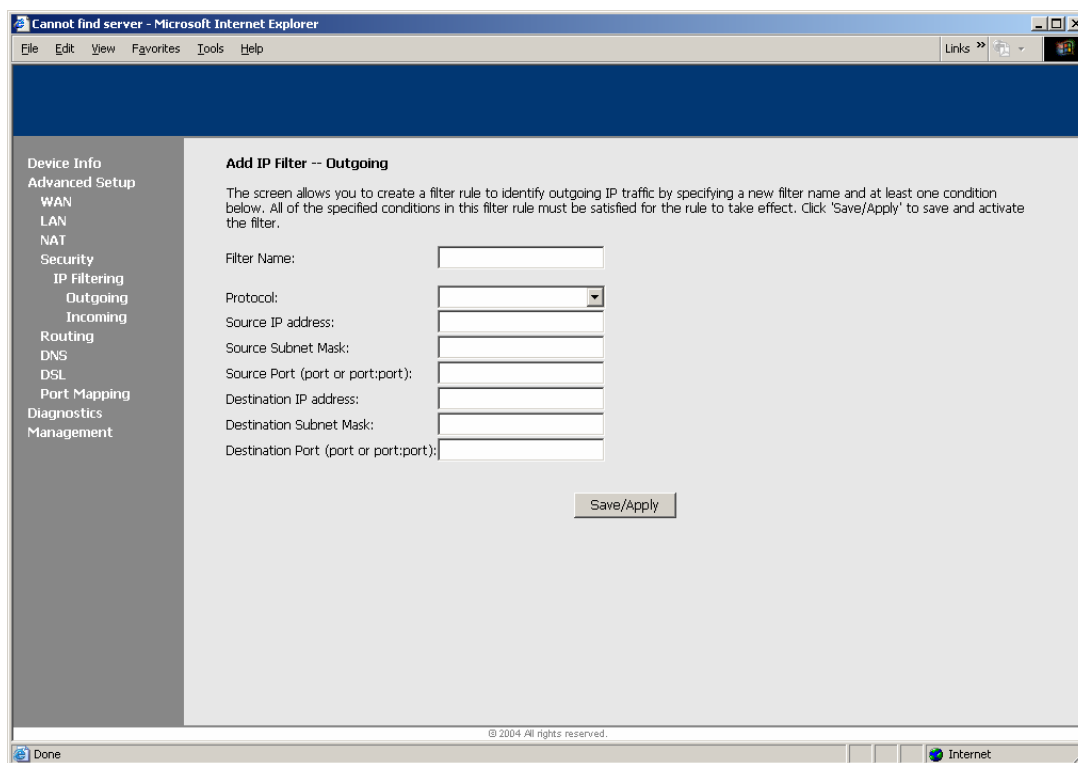


Figure 30. Advanced Setup – Firewall – Add new Outgoing IP Filter

#### 3.4.4.2 Incoming IP Filtering

By default, all incoming IP traffic from the WAN is blocked when the firewall is enabled. However, some IP traffic can be Accepted by setting up filters.

Refer to 3.4.4.1 Outgoing IP Filtering, follow the same principle to add a new filter rule.

### 3.4.4.3 MAC Filtering

MAC Filtering is only effective on ATM PVCs configured in Bridge mode. **FORWARDED** means that all MAC layer frames will be **FORWARDED** except those matching with any of the specified rules in the following table. **BLOCKED** means that all MAC layer frames will be **BLOCKED** except those matching with any of the specified rules in the following table.

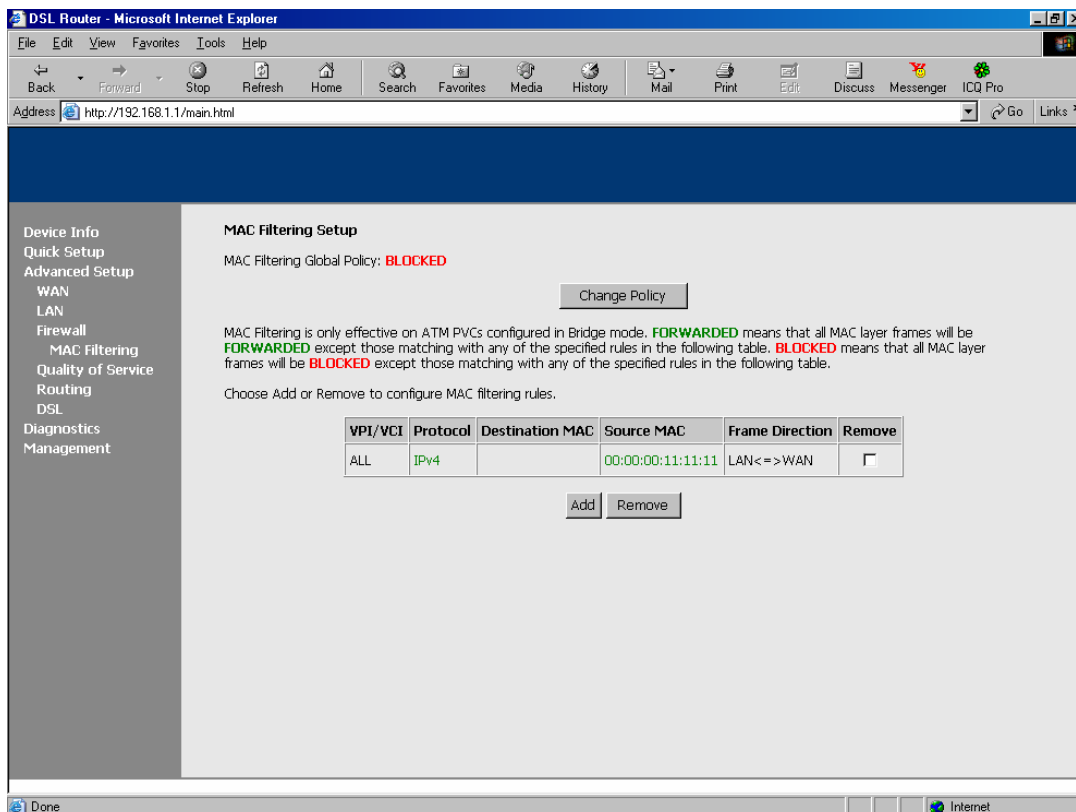


Figure 31. Advanced Setup – Firewall – MAC Filtering Setup

Click on Add to create a filter to identify the MAC layer frames by specifying at least one condition below. If multiple conditions are specified, all of them take effect.

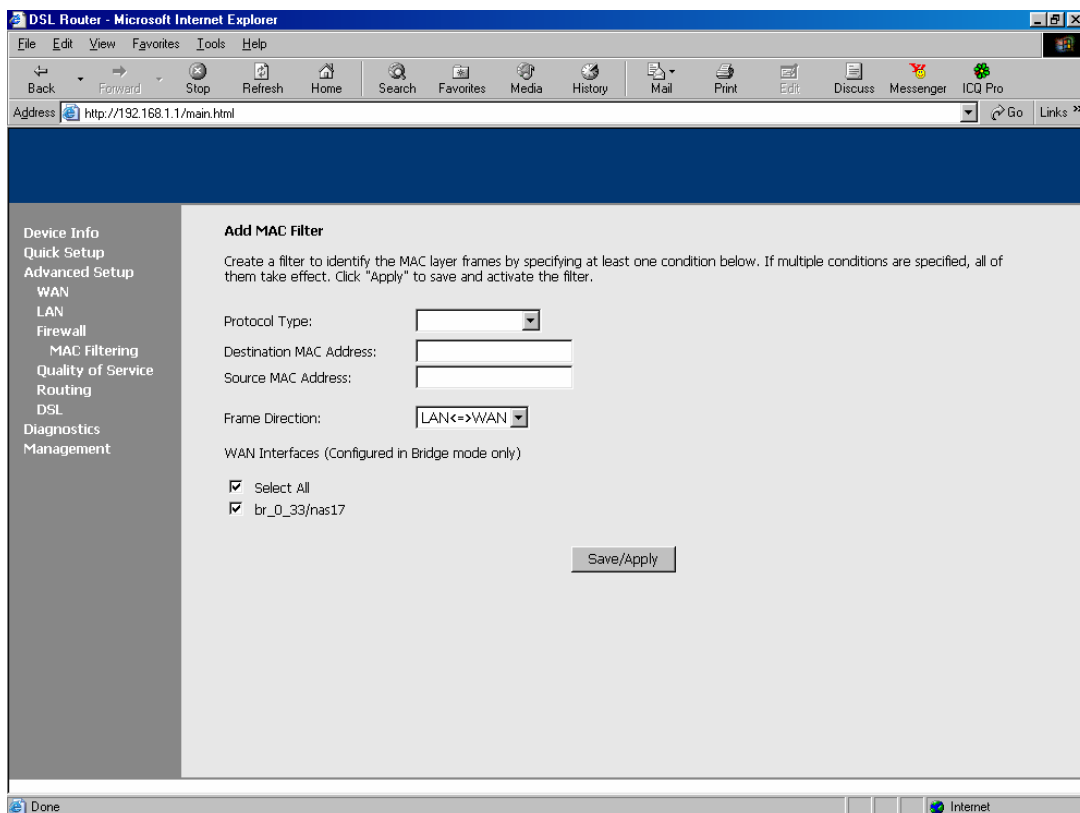


Figure 32. Advanced Setup – Firewall – Add new MAC Filter

### 3.4.5 Routing

Three routing information related settings are included.

#### 3.4.5.1 Default Gateway

If Enable Automatic Assigned Default Gateway checkbox is selected, this router will accept the first received default gateway assignment from one of the PPPoA, PPPoE or MER/DHCP enabled PVC(s). If the checkbox is not selected, enter the static default gateway AND/OR a WAN interface. Click 'Save/Apply' button to save it.

NOTE: If changing the Automatic Assigned Default Gateway from unselected to selected, You must reboot the router to get the automatic assigned default gateway.

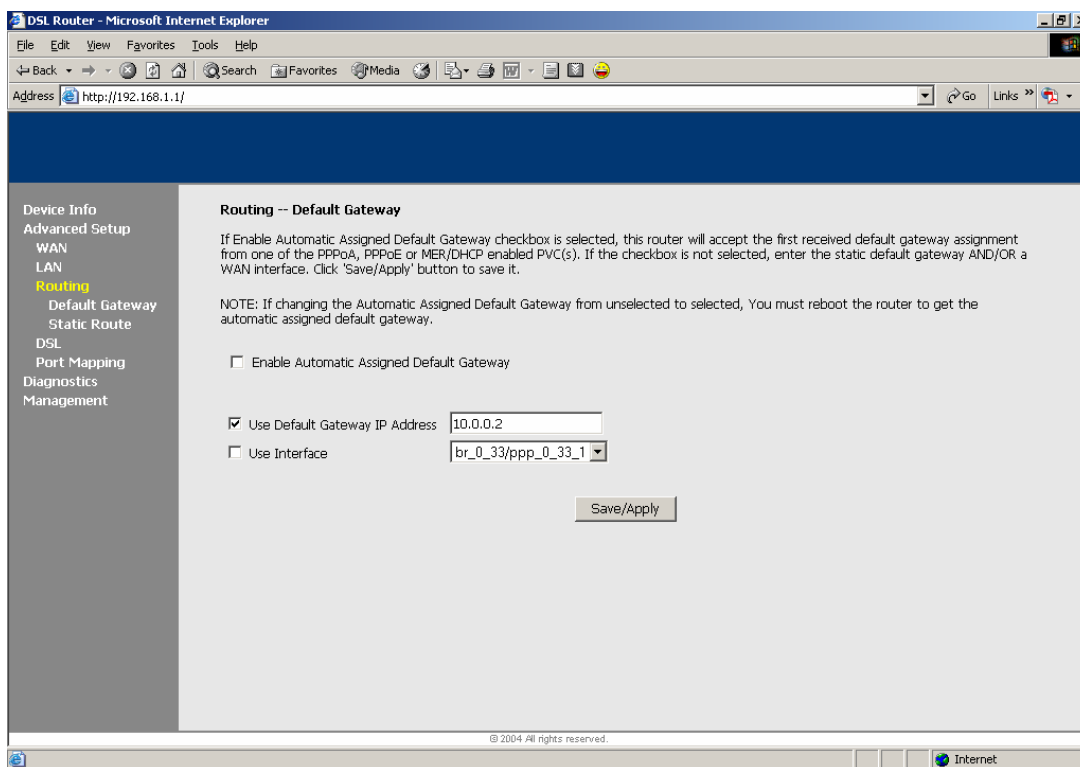


Figure 33. Advanced Setup – Routing – Default Gateway

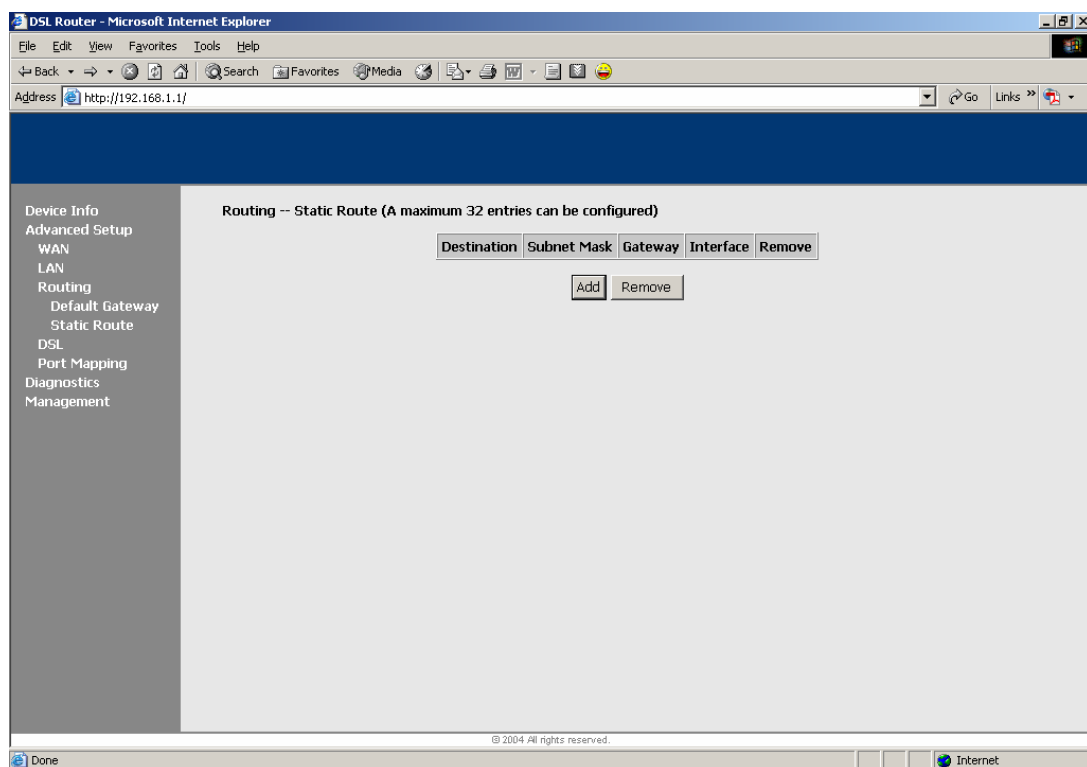


Figure 34. Advanced Setup – Routing – Static Route

Click on Add to create a new Static Route. Enter the destination network address, subnet mask, gateway AND/OR available WAN interface then click "Save/Apply" to add the entry to the routing table

DSL Router - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media

Address <http://192.168.1.1/> Go Links

**Device Info**  
**Advanced Setup**  
WAN  
LAN  
**Routing**  
Default Gateway  
Static Route  
DSL  
Port Mapping  
Diagnostics  
Management

**Routing -- Static Route Add**

Enter the destination network address, subnet mask, gateway AND/OR available WAN interface then click "Save/Apply" to add the entry to the routing table.

Destination Network Address:

Subnet Mask:

☒ Use Gateway IP Address

☐ Use Interface

Save/Apply

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Internet

Figure 35. Advanced Setup – Routing – Add new Static Route

## 3.4.5.3

## RIP

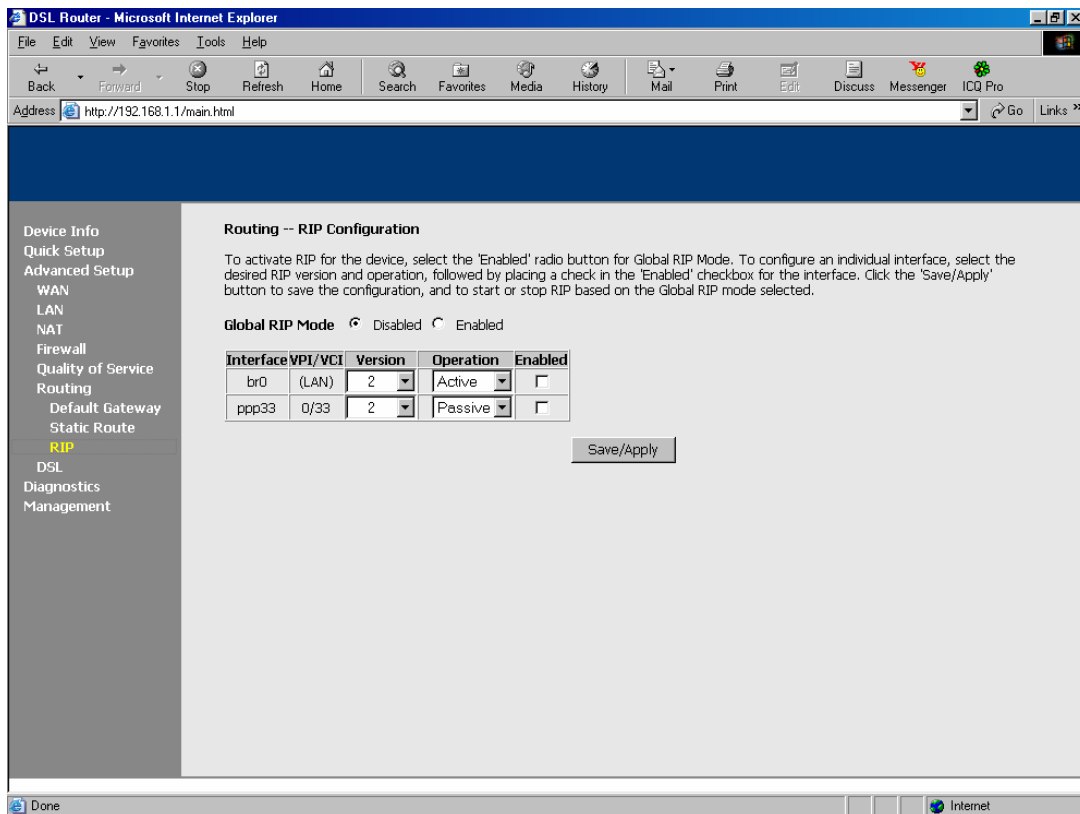


Figure 36. Advanced Setup – Routing – RIP

To activate RIP for the device, select the 'Enabled' radio button for Global RIP Mode. To configure an individual interface, select the desired RIP version and operation, followed by placing a check in the 'Enabled' checkbox for the interface. Click the 'Save/Apply' button to save the configuration, and to start or stop RIP based on the Global RIP mode selected

### 3.4.6 DNS Server

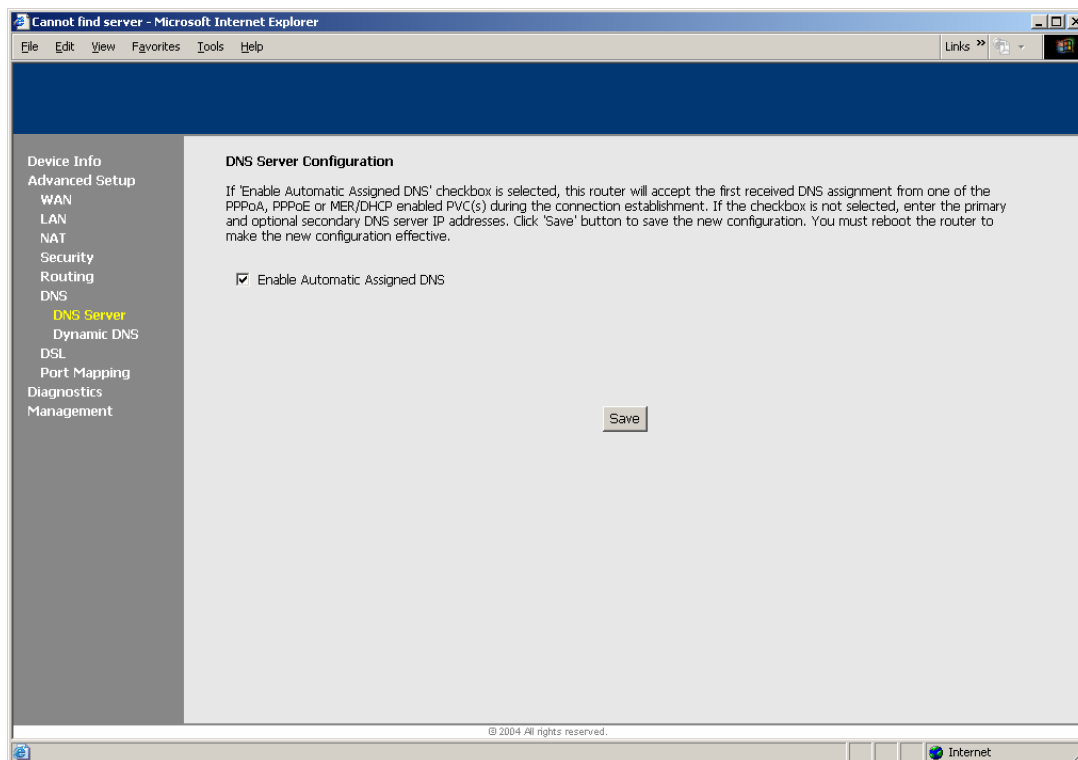
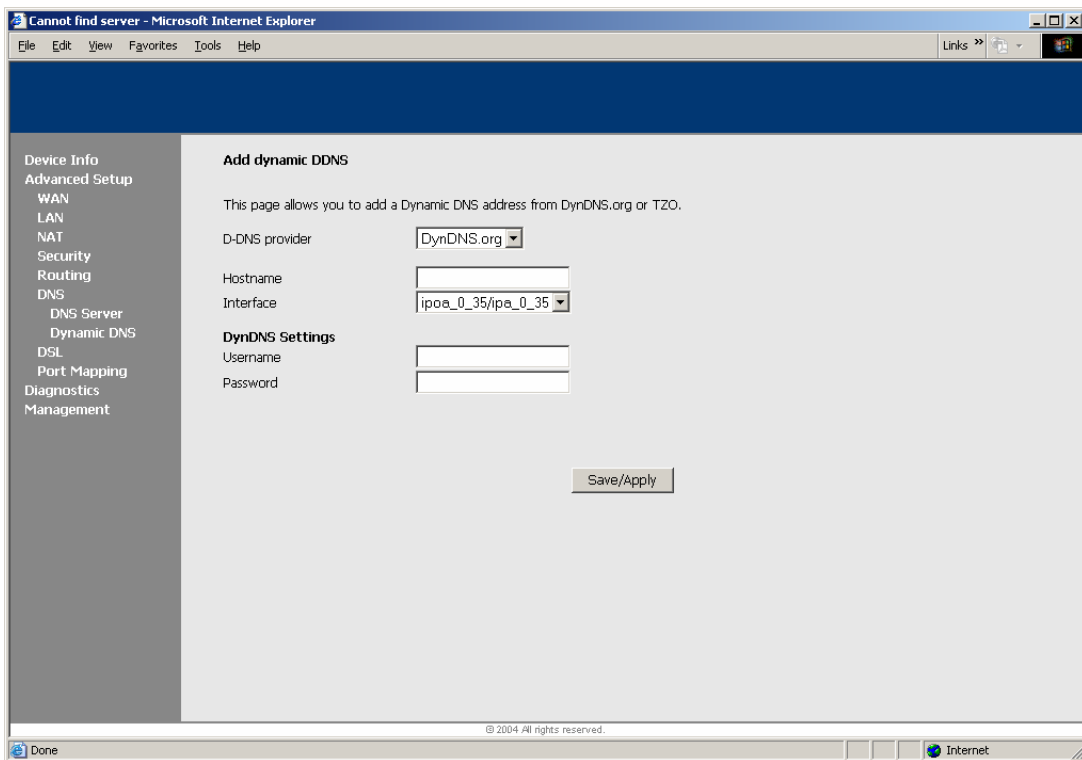
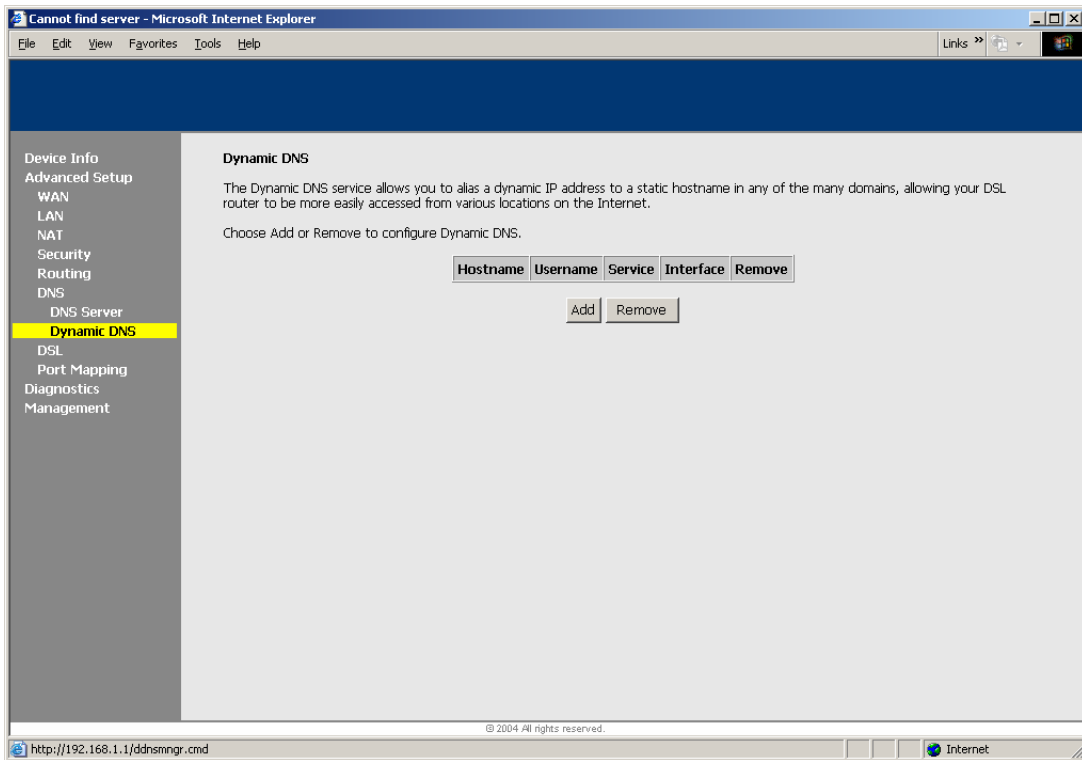


Figure 37. Advanced Setup – DNS Server

If Enable Automatic Assigned DNS checkbox is selected, this router will accept the first received DNS assignment from one of the PPPoA, PPPoE or MER/DHCP enabled PVC(s) during the connection establishment. If the checkbox is not selected, enter the primary and optional secondary DNS server IP addresses. Click 'Save' button to save it. You must reboot the router to make the new configuration effective



### 3.4.7 DSL

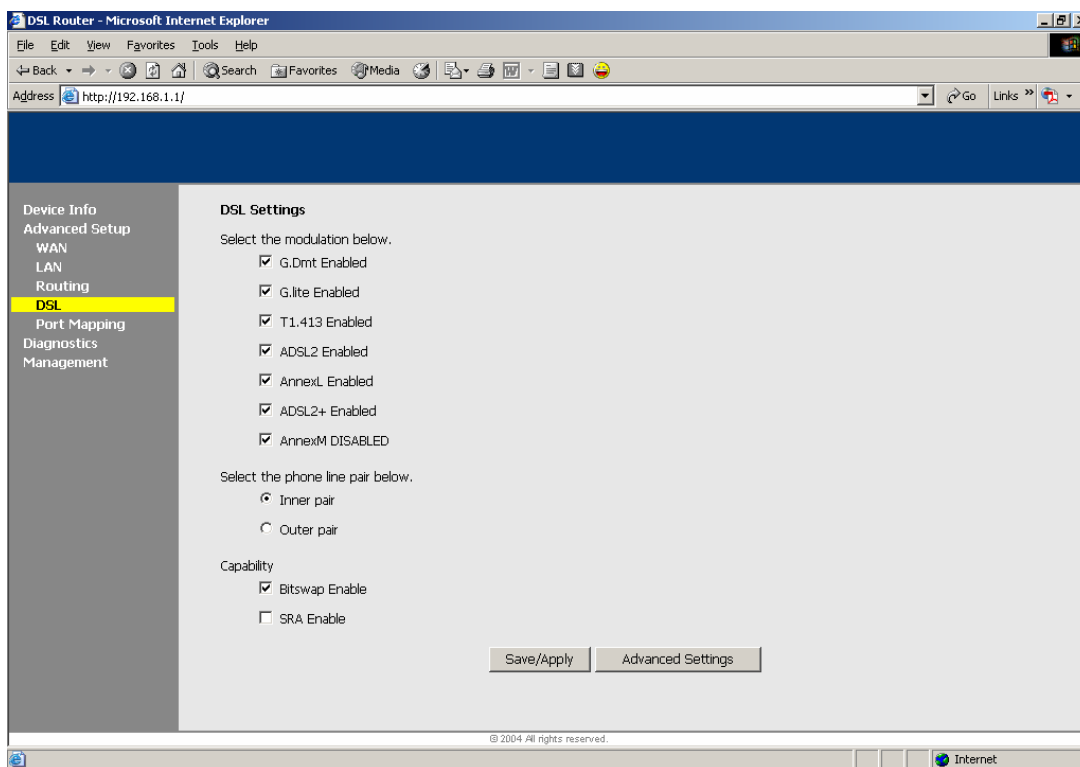
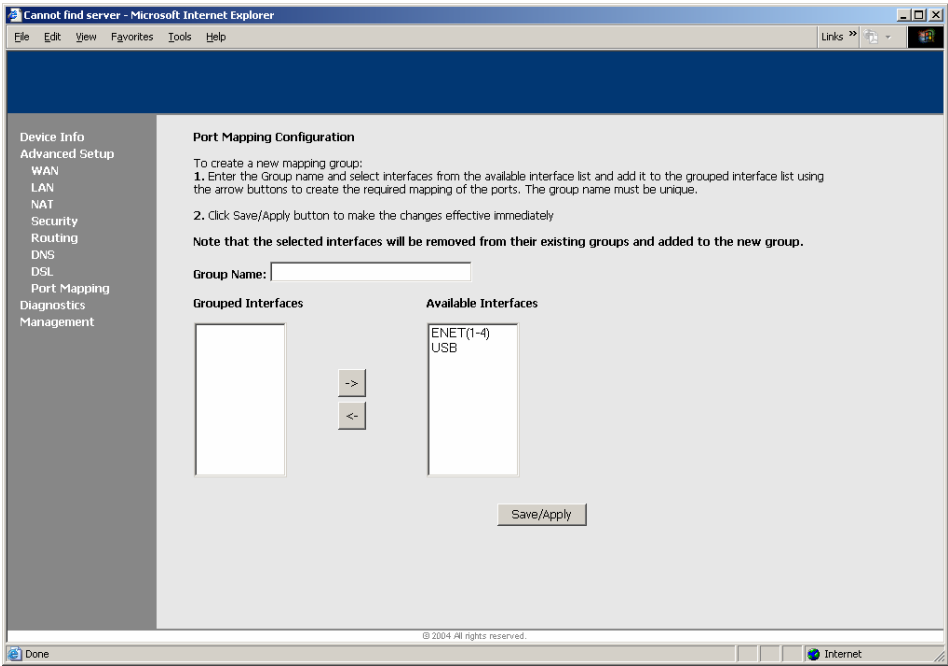
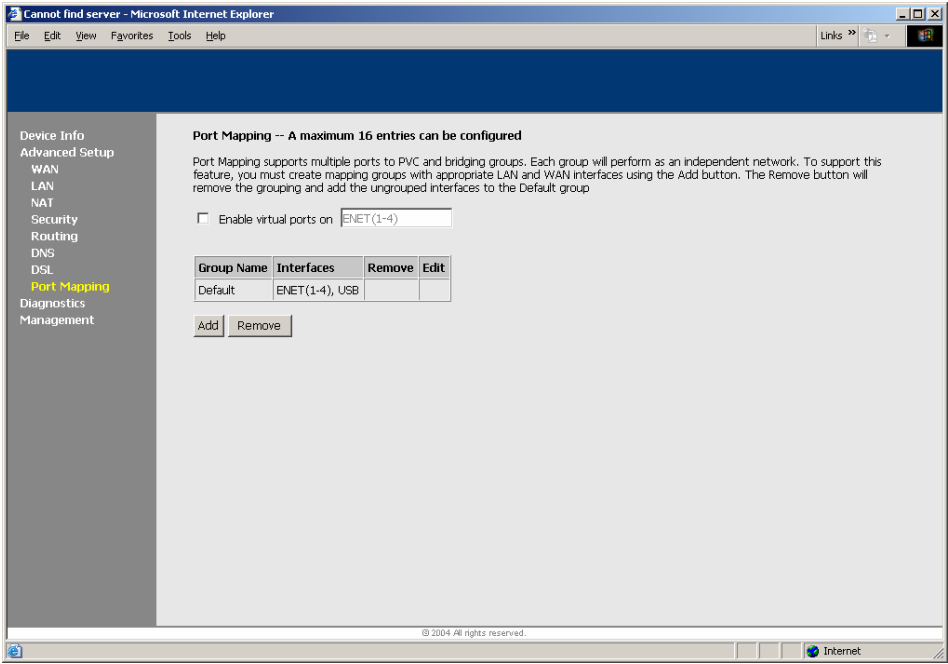


Figure 38. Advanced Setup – DNS Server

This page allows you to select the DSL modulation support, phone line pair setting, and DSL capability. DSL knowledge is required to configure these settings. Consult your ISP, make sure that the settings match the settings provided by it.

### 3.4.8 Port Mapping



### **3.5     Diagnostics**

This page allows users to test the Ether port connection, DSL port connection, connection to the Internet Service Provider. If a test displays a fail status, click “Test” again to make sure the fail status is consistent. If the test continues to fail, click “Help” to follow the troubleshooting procedure.

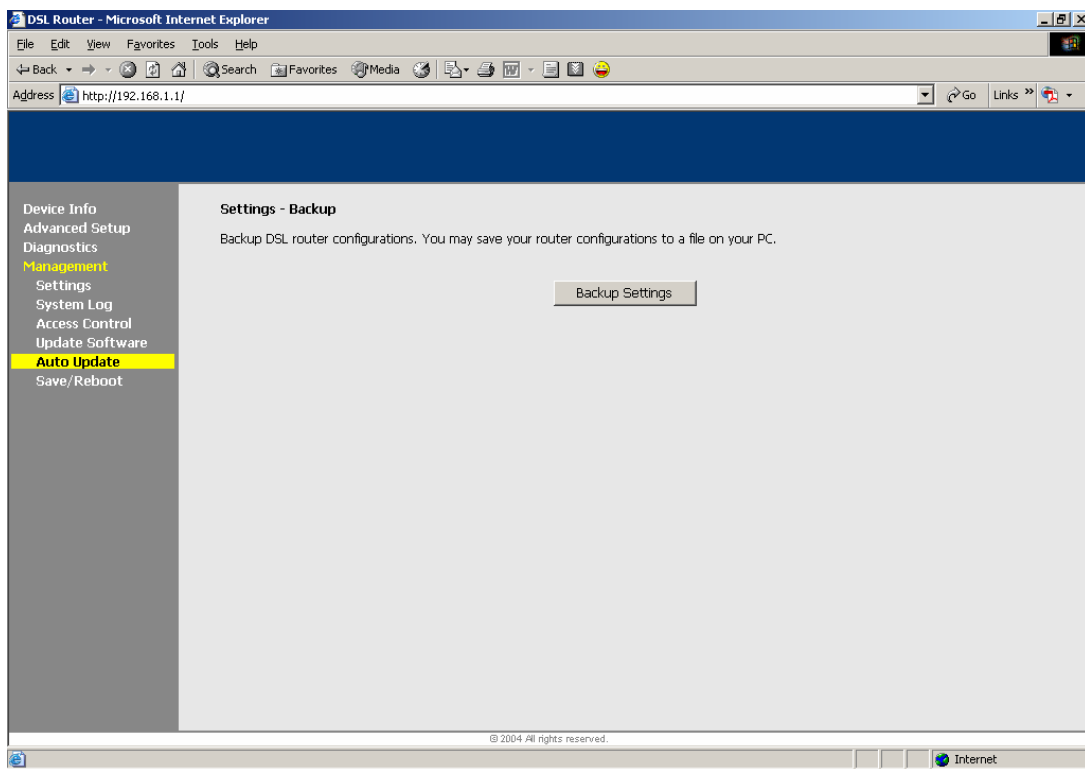
### **3.6     Management**

The system administrator can do the following functions to manage the configurations, events, SNMP information, user accounts, and software update of the ATU-R.

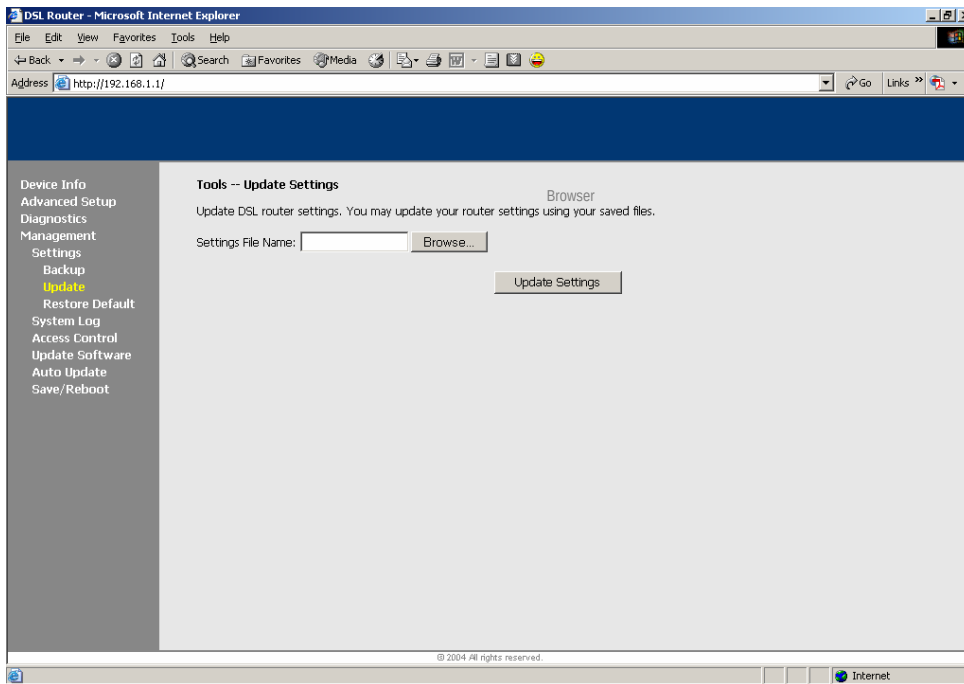
- Settings - Backup/Update Settings and Reset to Default
- System Log
- SNMP Agent
- Access Control – Services, IP addresses, and Passwords
- Update Software
- Save / Reboot

### 3.6.1 Settings–Backup/Update Settings and Reset to Default

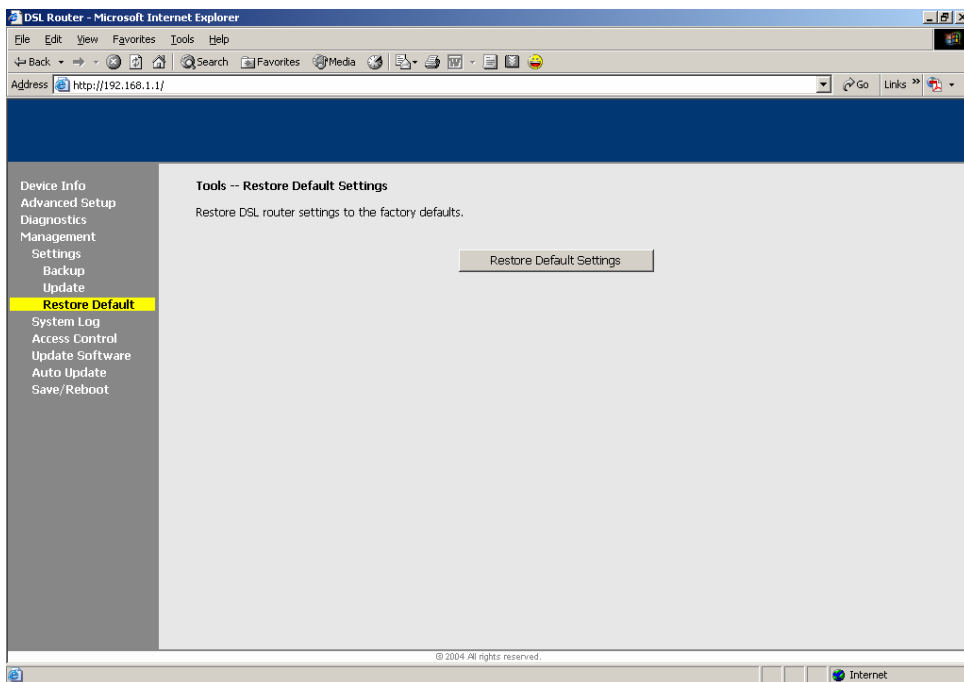
System Administrator can do the ATU-R settings backup, update, and restore here. The settings can be saved from ATU-R to PC. The saved setting file can also be loaded from PC to ATU-R. These 2 functions can help the system administrator to manage large amount of ATU-Rs efficiently. Restore Default would set the ATU-R with the factory default configuration.



Click “Backup Settings” to save the settings to a file on the Local PC.



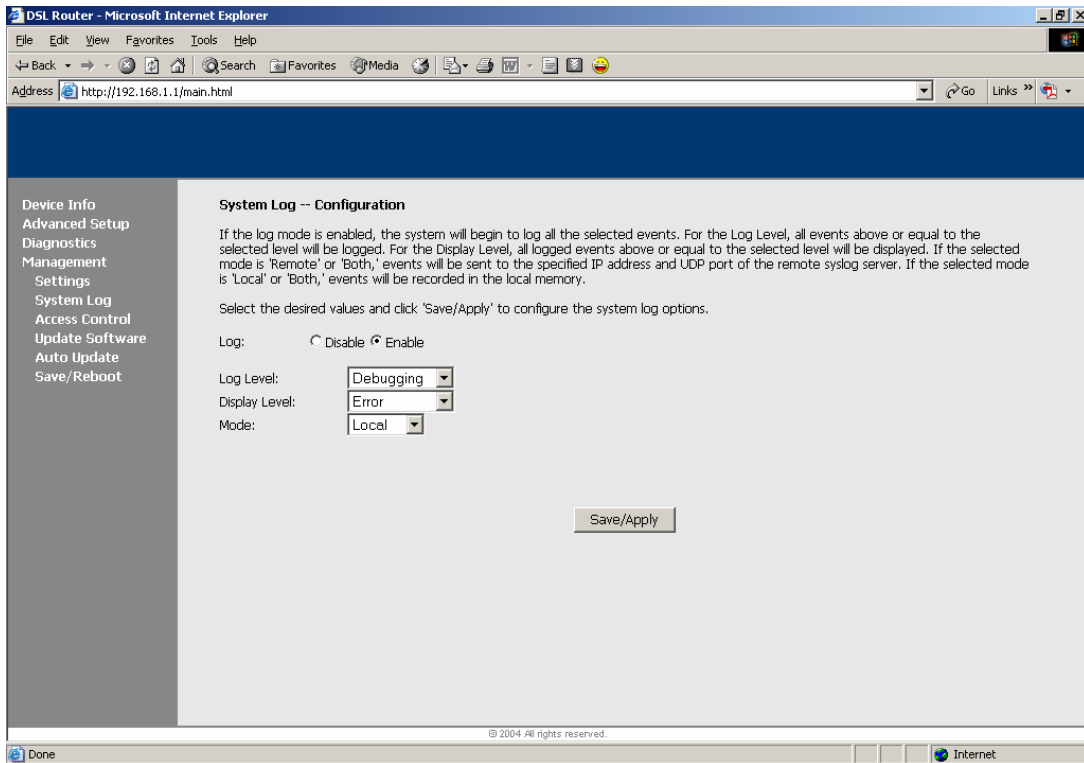
Click “Browse” to locate the setting file saved on the Local PC. Then, “Update Settings” would apply the settings to the ATU-R according to the setting file.



Click “Restore Default Settings” and then confirm the action.

### 3.6.2 System Log

This allows System Administrator to view the System Log and configure the System Log options.



Configure the System Log option. There're 8 levels of Log Level and Display Level, Emergency, Alert, Critical, Error, Warning, Notice, Informational, Debugging. The Log Level implies that what log level is applied to ATU-R to do the log. The Display Level would just show the users the log message that they want to know. As a result, Display Level was just a subset of the retrieved from the total log message which was logged according to the setting of the Log Level. If the "Mode" is set to "Remote" or "Both", the log messages would be sent to the specified UDP port of the specified log server.

### 3.6.3 SNMP Agent

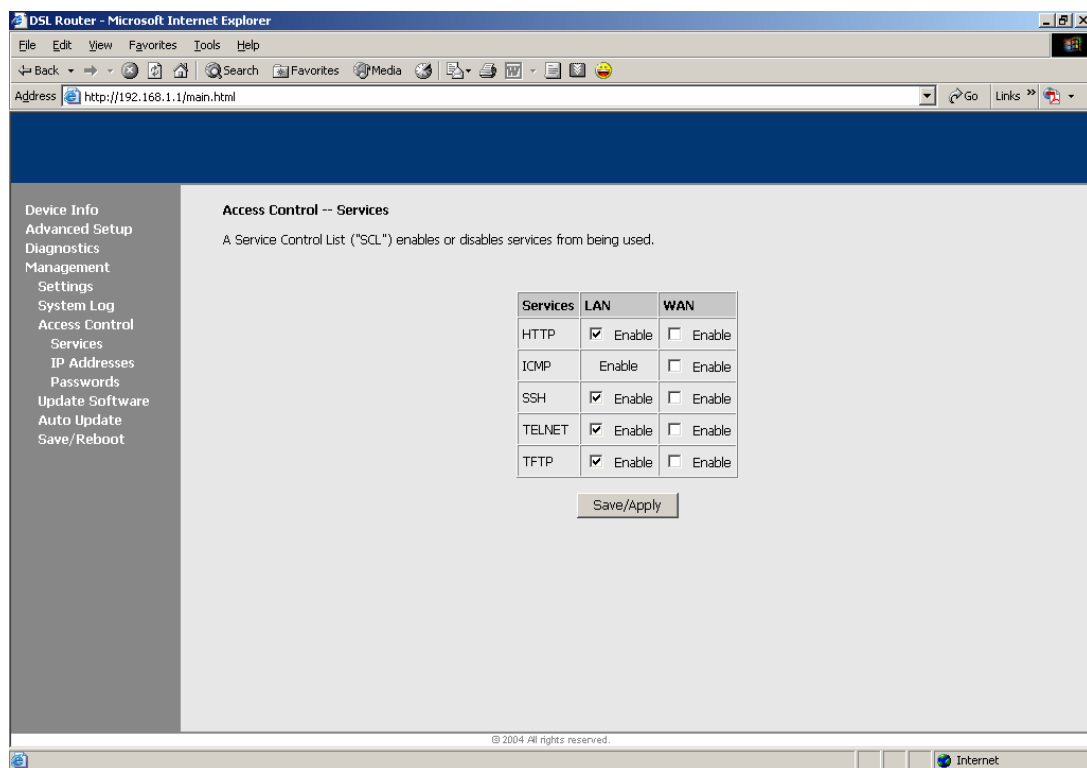
System Administrator could enable or disable the embedded SNMP Agent here. SNMP Agent would allow a management application to retrieve statistics and status from ATU-R.

The screenshot shows a web browser window titled "DSL Router - Microsoft Internet Explorer". The address bar displays "http://192.168.1.1/main.html". The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The toolbar contains icons for Back, Forward, Stop, Refresh, Home, Search, Favorites, Media, History, Mail, Print, Edit, Discuss, Messenger, and ICQ Pro. The main content area is titled "SNMP - Configuration" and contains the following text: "Simple Network Management Protocol (SNMP) allows a management application to retrieve statistics and status from the SNMP agent in this device. Select the desired values and click: 'Apply' to configure the SNMP options." Below this text, there is a section for "SNMP Agent" with two radio buttons: "Disable" (selected) and "Enable". To the right of the radio buttons are six text input fields: "Read Community:" (containing "public"), "Set Community:" (containing "private"), "System Name:" (containing "Broadcom"), "System Location:" (containing "unknown"), "System Contact:" (containing "unknown"), and "Trap Manager IP:" (containing "0.0.0.0"). A "Save/Apply" button is located below the input fields. On the left side of the page, there is a vertical navigation menu with the following items: "Device Info", "Quick Setup", "Advanced Setup", "Diagnostics", "Management", "Settings", "System Log", "SNMP Agent" (highlighted in yellow), "Access Control", "Update Software", "Reset to Default", and "Save/Reboot". The status bar at the bottom of the browser window shows "http://192.168.1.1/snmpconfig.html" and "Internet".

Enable or Disable the SNMP Agent. The detail function of the The Read Community, Set Community, System Name, System Location, System Contact, Trap Manager IP would not be described here.

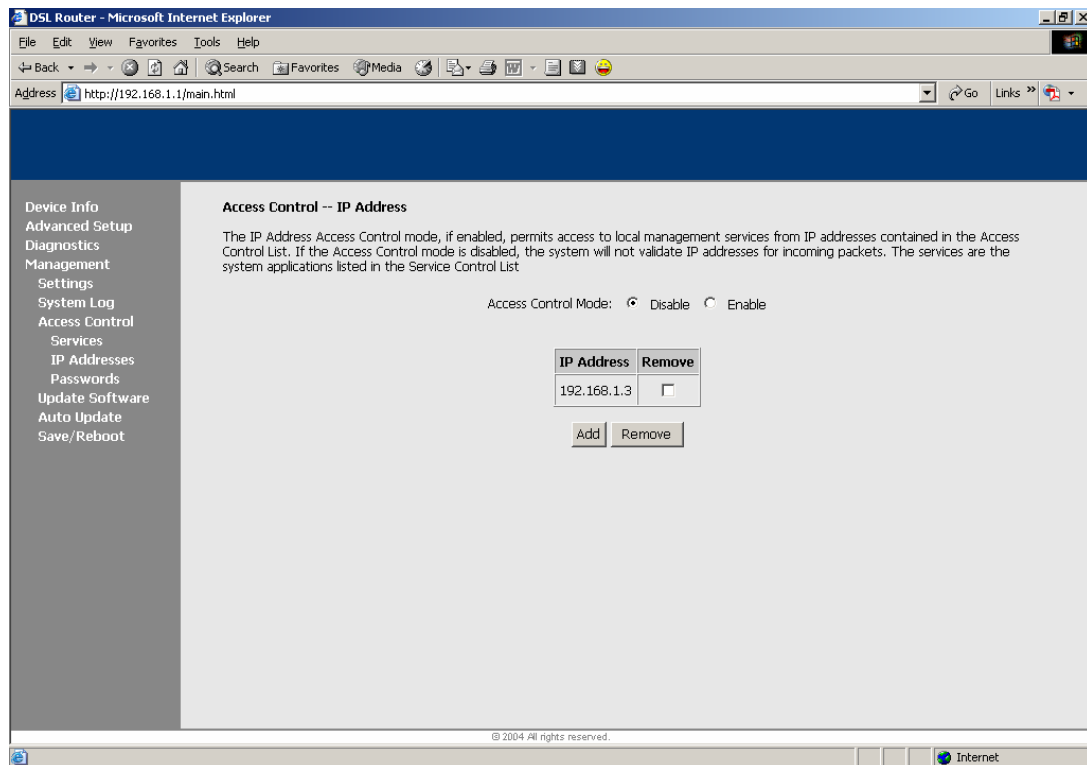
### 3.6.4 Access Control—Services, IP addresses, and Passwords

The “Services” list the service daemons (including FTP, HTTP, ICMP, SNMP, TELNET) that can be enabled for LAN side, WAN side, or both.



Mark the Enable of the WAN and LAN for each service. FTP, HTTP, ICMP, SNMP, TELNET are supported in the ATU-R.

The IP Address Access Control mode, if enabled, permits access to local management services from IP addresses contained in the Access Control List. If the Access Control mode is disabled, the system will not validate IP addresses for incoming packets. The services are the system applications listed in the Service Control List.



Click "Add" to add an IP address to the Access Control List. Mark the Remove option of the specified IP address, then click "Remove" to remove the IP address from the ACL.

Access to your DSL router is controlled through three user accounts: admin, support, and user.

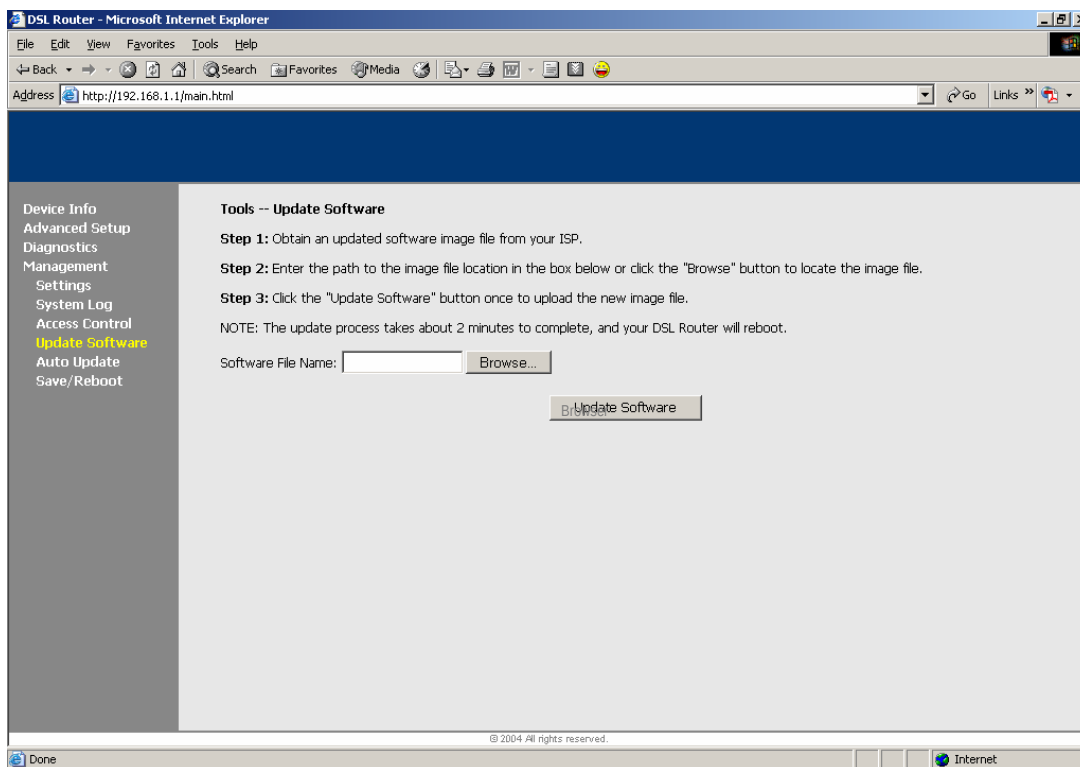
The user name "admin" has unrestricted access to change and view configuration of your DSL Router.

The user name "support" is used to allow an ISP technician to access your DSL Router for maintenance and to run diagnostics.

The user name "user" can access the DSL Router, view configuration settings and statistics, as well as, update the router's software.

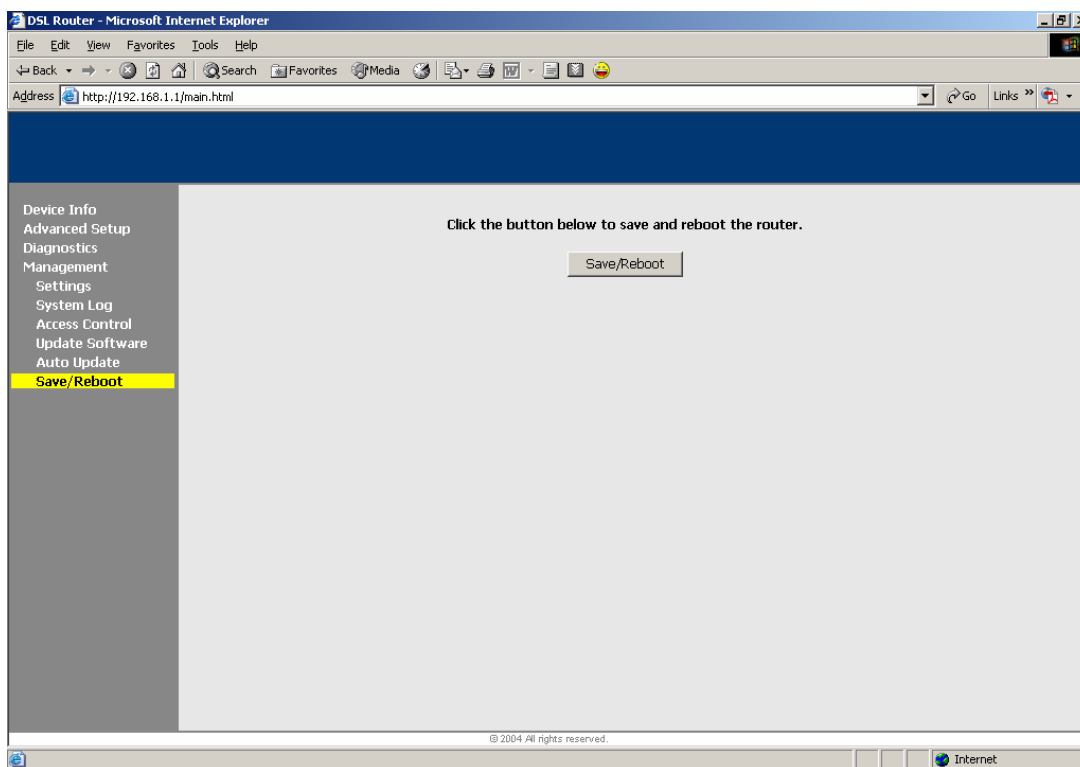
### 3.6.5 Update Software

The new released software could be update via HTTP. Click the “Browse” to locate the new software image file in the PC. Then, “Update Software” to proceed the software update. The procedure takes about 2 minutes (do NOT power off the unit during the period).



### 3.6.6 Save / Reboot

Click “Save/Reboot” to reboot the ATU-R. The ATU-R would automatically save the configuration before reboot, so that modified settings would take effect after reboot.





## Transmission Series

***CTC Union Technologies Co., Ltd.***

Far Eastern Vienna Technology Center  
(Neihu Technology Park)

8F, No.60, Zhouzi Street

Neihu, Taipei, Taiwan

Phone:(886) 2.2659.1021

E-mail: [info@ctcu.com](mailto:info@ctcu.com)

Fax:(886) 2.2799.1355

<http://www.ctcu.com>